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COMMUNICATIONS.

To the Editor of the Farmers' Cabinet.

SIR—I am rejoiced to find, that through the medium of agricultural newspapers, a spirit of improvement has been excited in parts of our state, as well as in other states. That men of sterling intelligence—practical farmers—who perform well all they undertake, are waking up to an examination of the subject, I regard as an evidence, that the foul stain, so long resting on our fair state, of a total neglect of her agricultural interests, is about to be wiped away. I rejoice at this. Pennsylvania is emphatically an agricultural state, and I have often been mortified, when asked, "what are you doing, as a people, to advance the cause of agriculture?" I have been compelled to return the humiliating answer—*nothing!* The agricultual resources of our state are abundant—I might say inexhaustible. Our agricultural and mineral wealth is beyond all calculation.

The resuscitation of the Philadelphia Society for Promoting Agriculture, and the organization of the Chester and Delaware County Agricultural Society, I regard as another evidence of a proper state of feeling on this subject. I hope they may be efficiently managed, and that in a short time similar societies may be established in all the counties of the state. This can be accomplished, if our brother farmers will but take it in hand. Every thing else, necessary, will *then follow*. The plan proposed in a former number of the Farmers' Cabinet, by W. P. KINZER, pleased me. I trust that the seed sown, from time to time, in your paper, will produce a fine and luxuriant crop.

A third reason why I think the cause of agriculture is really advancing, is, that for the last year the correspondents for your paper have been constantly increasing in number, in interest, and in spirit, I have the pleasure of an acquaintance with some of them; they are practical farmers; competent to the task.—It is truly encouraging to see men of intelligence and experience entering heartily, as some of them have, in sustaining your paper by their contributions, and personal influence. That they effect much good, I doubt not. Others, also, moving in a humbler sphere—who cultivate fewer acres, but who feel no less the importance and dignity of the art of agriculture—and who, keeping their grounds well tilled and free from weeds—obtain an independent support from Old Mother Earth—take also a lively interest in the modern improvements of the art of agriculture. The writer of this belongs to the latter class; he brings his *mite* towards the work. It is at your service. If you publish the communication, well—if not, please preserve it until called for.

The following communication is a *compilation of facts* in regard to the culture of wheat, interspersed with such remarks as the experience of the writer in its cultivation, for a series of years, and frequent conversations with eminent wheat growers, appear to justify. The works consulted have been numerous; among them Loudon's Encyclopedia,

Low's Elements of Agriculture—Le Couteur's Treatise—Farmers' Assistant, &c. &c.

A Farmer.

Chester county, Pa., July 26, 1839.

Cultivation of Plants.

The plants of the description termed *cereal grasses* that are most usually grown in this country, are, wheat, rye, oats, and in a lesser degree, barley. To these we may add maize, (Indian corn, which is one of our most important crops,) and buckwheat and rice, which are very important crops, and likewise millet.

The *chemical composition* of plants has been made the subject of numerous experiments, within these few years. Some of them have been attended with very interesting results; but as the subject is too extensive to be treated of here, I give the following brief quotation from the works of a gentleman now no more, whose labors in the cause of science have thrown much light on the art of agriculture.*

"The compounds in vegetables really nutritive, are very few; *farina*, or the pure matter of starch, gluten, sugar, vegetable jelly, oil and extract. Of these the most nutritive is gluten, which approaches nearest in its nature to animal matter, and which is the substance that gives to wheat its superiority over every other grain.

"The next in order as to nourishing power is oil, then sugar, then starch, and last of all gelatinous and extractive matters. Sugar and farina, and starch, are however, very similar in composition, and are capable of being converted into each other by a very simple chemical process.

"All the varieties of substances found in plants, are produced from the sap, and the sap of plants is derived from water or from the fluids of the soil, and it is attended by, or combined with, principles derived from the atmosphere."

But they are subject to variations however, in quality and proportion, not only in the different kinds of grain, but also in those of the same species: the temperature of the season, the nature of the soil and manure, the degree of maturity which the crop has obtained, and the weather at harvest, all give rise to distinct degrees of quality; and this occasions grain to contain more nutritive properties in some years than others.

Seed of every kind should attain full maturity ere it be sown.—There is always risk in employing that which has not arrived at perfection, although instances may occur in which such seed has produced sound crops, when favored by soil and season. Several cases of this season's occurrence might be mentioned in illustration of the fact.

There is a particular *period at which each species of seed ought to be sown*, in order to bring the plants to a perfect state of ripeness. This, however, depends so much upon the soil and season, that it cannot be fixed by any general rule, and the farmer can only be governed by the state of the weather, and the forwardness of his work, for whatever may be his experience, his judgment may be deceived in the choice of time.

The condition of the land is, in fact, the best guide; for, if it be in a mellow state, between drought and moisture, the seed may be put in with confidence. Some kinds, however, prefer a dry and warm soil; others, that which is more humid and tenacious. Thus, barley, rye, and buckwheat, succeed best on the former; and wheat and oats on the latter. It has, indeed, been remarked that a certain state of the atmosphere—with which all farmers are well acquainted—is favorable to sowing.*

The *depth at which seed should be sown* is a matter of nicety, as well as of importance. If too deeply buried, germination is impeded, and may be altogether prevented; while, if sown too shallow, sufficient moisture is not left in the surface to afford nourishment to the roots of the plants.

The depth at which seed ought to be placed must, therefore, be regulated by the nature of the soil. If stiff, more moderate covering should be used than if light and porous; wheat, barley, and oats also require more than rye or buckwheat; but, except in a few instances, from one and a half to three inches, is in every case, the lowest to which it should be carried.

WHEAT.

Of *what country wheat is a native*, is, according to Loudon, totally unknown. It has been supposed indigenous to Asia and Africa, and unquestionably it is more likely to belong to these parts of the world than any other; but all that can be advanced on this subject is conjecture.

Wheat, with the exception of some parts of the southern coast of Africa, (where, according to the declaration of Pliny, it yielded more than an hundred fold,) is cultivated in every part of the temperate and torrid zones, and in some places as high as two thousand feet above the level of the sea.

Species and Varieties.—Botanists reckon seven species of triticum, which are or may be cultivated for their grains, besides many varieties and sub-varieties of those in common culture. The species or sub-species, are,

* Sir Humphrey Davy—First Lecture on Agricultural Chemistry.

* Library Useful Knowledge—Farmers' Series.

1. Triticum æstivum, Summer or spring wheat, (*a.*)
2. " hybérnum, winter or Lammas wheat, (*b.*)
3. " compósitum, Egyptian wheat, (*c.*)
4. " turgidum, Turgid wheat, (*d.*)
5. Triticum polonicum, Polish wheat, (*e.*)
6. " spélta, Spelt wheat, (*f.*)
7. " monocóccum, one grained wheat, (*g.*)

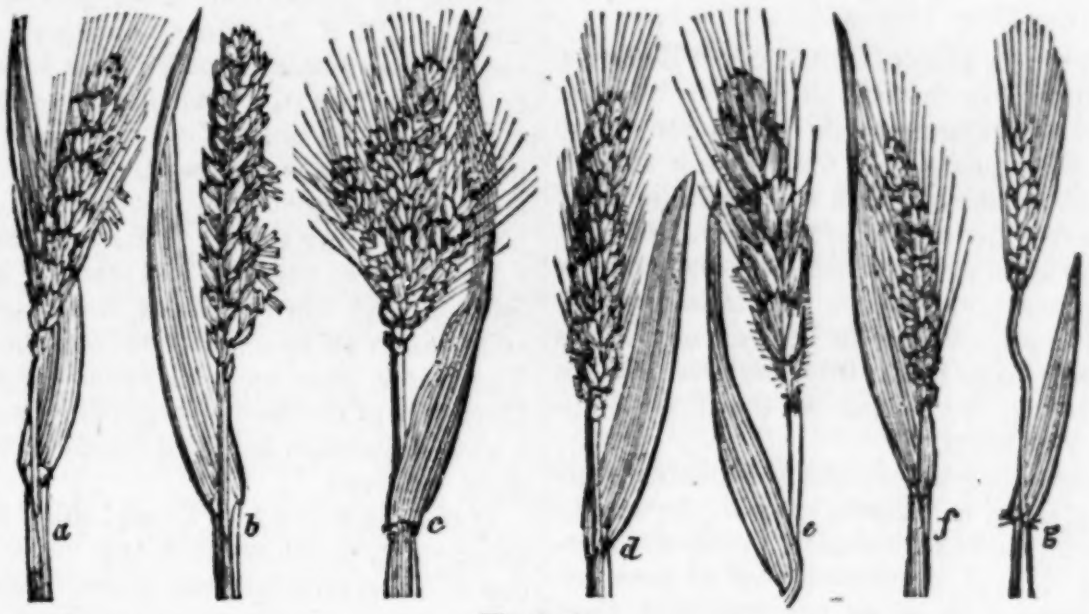

Fig. 1—7.

The first, second, fourth and fifth sorts are by many considered as only varieties, and it is doubtful whether the third and sixth may not be the same. The seventh has all the marks of a distinct species, but it is very questionable whether, if much cultivated, it would not always continue to produce one row of grains.*

Of the species which have been enumerated, greatly the most important in rural economy, is the winter wheat. The kinds of it are very numerous, and, in truth, there is scarce a limit to the difference which climate, soil, and situation may produce.

The characters which it thus acquires in the different conditions in which it is placed, are more or less permanent and important. The kinds are distinguished by a great variety of local terms, derived from their respective qualities, their places of growth, and other circumstances.

With respect to their uses in agriculture, they may be divided into two classes, distinguished by the color of their *seeds*, red and white; and these may again be distinguished by their *spikelets* being smooth or hairy. the one being termed thin or smooth-chaffed, and the other thick or woolley-chaffed.

Of these classes, the *white* are superior in the quality of their produce; the *red* are the more hardy; and in general, the thin and smooth-chaffed are preferred to the woolley and thick chaffed.

Winter wheat is sometimes termed spring wheat. This merely arises from the period of sowing. If it is sown in spring, it is termed spring wheat; if previous to winter, summer or winter wheat. This circumstance has perplexed some writers, who have evidently drawn distinctions between the winter and spring wheat of the farmer which do not exist.

But it is a curious fact that wheat sown in spring, changes its habit with relation to the period of ripening, the produce of wheat sown in spring acquires the habit of coming much sooner to maturity, than the produce of that sown in autumn. Hence the farmer, when he sows wheat in spring, should sow the produce of that which had been already sown in spring, and not the produce of that which had been sown in autumn.

This change in the habit of ripening, though it may at first view appear somewhat singular, takes place in all the cereal grasses, and also in many other cultivated plants. The minor varieties of any species of wheat are not permanent in their character, though under given conditions they will remain unchanged for an indefinite period; under other circumstances, however, they degenerate—and hence, particular kinds that were once valued, have now ceased to be so.*

Wheat is of very general cultivation on all classes of soils; but the soils best suited to it are those which are more or less clayey. So peculiarly is wheat suited to the stiffer soils, that they are familiarly termed wheat soils. The soils of the lighter class are the least suited to wheat; and it is an error in practice to force the production of wheat on soils, and under circumstances which are better suited to the production of the other grains.

To be continued.

Without frugality, none can be rich—and with it few would be poor.

* Encyclopedia of Agriculture, p. 812.

* Professor Low, page 234.

For the Farmers' Cabinet.

Observer---No. XIX.

REMARKS ON DR. CLOUD'S ESSAY ON AGRICULTURE.

I was much pleased with the "Essay on Agriculture," in the last Cabinet, by the late Dr. Cloud, of Chester county.* A gentleman no less distinguished for his amiable disposition, than for the strength of his intellect, and the extent of his scientific acquirements. But my admiration of his worth—my approbation of his general views, are the strongest motives for endeavoring to correct any errors which may have fallen from his pen. Were he yet living, he would be the first to approve my conduct.

In attempting to explain the modus operandi of plaster, he seems, in some degree, to have fallen into the common error of theorists, and formed conclusions—or at least assumed certain positions, as true, and then framed his propositions to suit them. The strongest mind is liable to be biased by some preconceived opinion, and is unconsciously led to the easy adoption of such facts, and such only, as appear to sustain it. The explanation contains a beautiful series of scientific truths, harmoniously arranged in proper order, and terminating in the result intended. A result which is only an assumed hypothesis, and not an ascertained fact. I should have been captivated with the theory, if I had not previously read the propositions on which it is founded. Some of these appeared to me untenable, and if so, the explanation cannot be true. These propositions are three:

1. "That plaster does promote the growth and perfection of vegetables."

2. "That it is useless in seasons of a sufficiency of rain."

3. "That dew is more apt to be found upon grasses that have been plastered, than others."

Led by my own experience, and sustained by the testimony of many farmers, I would say that the second proposition should read *deficiency*, instead of *sufficiency*. I believe that it is only in moist seasons, or, at most, when rain succeeds the sowing of the plaster before a drought sets in, that it proves beneficial. If rain did not succeed the sowing, I have not seen such benefit during the continuance of the draught. It may be true, however, that where the soil is good, and the season wet, the producing effect of the plaster is not required, and may hardly be perceptible. On a thin, or exhausted soil, I think the effect will be in proportion to the moisture of the season.

I also object to the third proposition, that it is an assumption without proof. It is admitted, that if part of a field, similarly circumstanced throughout, be plastered, the grass on that part will have more dew upon it—just in proportion to its greater luxuriance. But if by the application of other means, the remaining part should be rendered equally luxuriant, I hold that the quantity of dew would be similar on the two parts. A plant of vigorous and rapid growth, imbibes more nourishment than it would do in a feeble, languishing state. This nourishment is taken up from the soil in a state of aqueous solution, and the excess of water separated and thrown off by exhalation from the leaves. The water, thus exhaled, is the excrementitious part of the food of vegetables, and bears a near proportion to the quantity of nourishment received.

If this view be correct, and I think few will question it, it follows that the greater quantity of dew, on plastered grass, arises from the general circumstance of its *increased luxuriance*, and not from any *specific effect* of the plaster. That it is derived immediately from the vessels of the plant, and condensed upon its surface by the cool of the night—and not attracted from the atmosphere. And thence, as the hydratic property of uncombined sulphuric acid on the leaves is not required, and, so far as appears, has never been shown to exist, the theory of its formation must fall to the ground.

The theory in question seems to limit the effects of plaster to this deposition of water, on the outside of the plant, without showing in what way it promotes the growth. I would ascribe more to its agency. To me it seems probable, that it operates within, and not upon the surface of the plants. Probably, it is a mere stimulant, or condiment, taken in with their proper food, which, by acting first upon the recipient, and afterwards upon the assimilating organs, increases their action, and enables them to receive and digest more food than they could without it. This conjecture is greatly strengthened by daily observation and experience in animals.

In remarking, thus freely, on the labors of the lamented dead, it may be proper to observe, that I delight to see intelligent minds engaged in the investigation of the phenomena of nature, with reference to the improvement of the condition of man. The attempt to explain the chemico-vital operation, according to the ascertained laws of the physical sciences, may fail of its ultimate object, and yet prove of vast utility, by eliciting new and important truths. Even the most wild and fantastic theory may often lead to the same result.

If I were to admit the positions assumed by Dr. Cloud to be as correct as his theory is beautiful and scientific, I should still doubt

* Farmers' Cabinet, vol. iii, page 329.

whether any appreciable quantity of sulphuric acid could thus be produced. If he had estimated the quantity of acid thus placed at his disposal, as he did of the lime, he would probably have arrived at the same conclusion—"surely all the (acid) that enters into this sulphate, spread upon the ground in the sparse manner in which gypsum is usually strown, could have but a very inconsiderable effect." This conclusion is fortified by the consideration, that this quantity of acid would not be brought, collectively, upon the surface at one time, but in small and successive portions every night for months, and even many times for years.

The foregoing remarks are submitted to the consideration of my readers, with due reference to the high authority, and "chemical research" of the gentleman who "originated" most of the opinions under discussion, and for whom I feel the highest respect.

New Garden, 7 mo. 1st, 1839.

For the Farmers' Cabinet.

Restatement.

A reconsideration of arguments in favor of investing capital in lands rather than six per cent. stocks.—A short history of the improvements made, and inducements to invest in the Hundreds of Red Lion and St. George's, in New Castle county, Delaware.

Mr. Editor,—I was much pleased with a communication in your May number, by a "Young Farmer" of Churchville, Md., on the question "*whether stocks or land afford the most profitable investment.*"

I am of the opinion that if those who are identified with the soil, and who desire its permanent improvement, would make greater efforts to prove to our capitalists in cities and thickly settled neighborhoods, the advantages arising from a withdrawal of investments in stocks, which at all times are very uncertain, and re-invest in lands, at moderate prices, in improving neighborhoods, they would greatly promote the cause they have espoused, as well as the permanent good of the country. All that is wanting to make a "Farmer's life" *respectable*, as well as useful and independent, is the distribution of more capital and intelligence or useful knowledge among men. I therefore invite the attention of those, whose funds are invested in the manner above mentioned, to a reconsideration of the positions assumed by a "Young Farmer," in the hope that the grounds on which he has based his argument of investments in lands may influence some to abandon the over-crowded city, or too thickly settled neighborhood, and locate in situations where lands are cheap and of good quality.—His argument is this—"That the decision of the question whether stocks or land afford the most profitable investment, will depend mainly, if not entirely, upon three things, viz:—*The price at which land can be purchased; the price for which produce will sell; and the price to be paid for labor.*

He admits—"that the investment of money in land which cannot be purchased for less than from $100 to $200 per acre may not be as profitable as six per cent.; but contends that when land equally good, naturally, can be purchased for one tenth the above sum, the price of produce equally high, and the price of labor considerably less, the investment of money in land would be much more profitable.

As a proof that the latter is a fact, he adduces the condition of the lands lying on Deer Creek, in Harford county, Md., no less gratifying than new to me, for the lands through which the rail-road runs indicate a sterile soil, and consequently impress strangers unfavorably. Hence the advantage of agricultural papers in affording a medium for a correct knowledge of the condition and improvement in progress throughout our widely extended country. "Here," he says, "latterly some small farms of prime quality, highly improved, have been sold at from $50 to $75 per acre. This land will produce on an average from 20 to 30 bushels of wheat per acre, and from 40 to 50 of corn. The above mentioned is the highest price at which land is held in this county. But there are many farms on Deer Creek and within three, four, and six miles of it, which can be purchased at from five to twenty-five dollars per acre. These are of course somewhat inferior to the first mentioned in quality, but with a little care, and by the application of lime, can be made to produce as good (and perhaps better) crops than the lands in Lancaster, Chester, and Philadelphia counties, which are daily sold at from $100 to $150 per acre. The vicinity to lime enables them to procure it quite as cheap as in those counties."

From the above premises he deduces the following supposition. "Suppose a Chester or Philadelphia county farmer should purchase here for $15 per acre, and put on $10 per acre in improvements, which is $25. If he could sell out for $100 per acre, he could purchase as much land for one-fourth the money; and if produce is equally high *here*, and he could make *six* per cent. *there*, he would make *twenty-four* per cent. *here*. Having now stated the arguments designed as a reply to some queries propounded by an 'Old Subscriber,' he concludes his interesting communication by inviting him to visit his section of country, saying "that if he has any idea of an agricultural life, he will be induced to sell out his six per cents, and invest the proceeds in good *twenty-four* per cent. in Harford county, Md.

I hope a "Young Farmer" will not deem

me obtrusive. If I interpose a plea, and ask of him the favor, that when an "Old Subscriber" pays him a visit, he will advise him not to invest until he has extended his reconnoitering into New Castle county, Delaware, particularly the lands in Red Lion and St. George's Hundreds, better known probably as lying in the vicinity of the Chesapeake and Delaware canal. I mistake the character of a "Young Farmer" much if he, as well as an "Old Subscriber" will not be interested in a detail of the improvements now in progress in the section of country alluded to. No longer than fifteen years ago, it may be asserted, without the fear of contradiction, that not less than three-fourths of those lands were reduced to the lowest state of exhaustion.

The land destroying system, of taking off, crop after crop, without any adequate return of vegetable matter to supply the exhaustion, was the legitimate cause; and afforded to the stranger as he passed along, a panorama of comfortless buildings, dilapidated fences, and worn out fields. True, here and there might be seen a tolerably improved farm, but like the oasis in a sandy desert, "they were few and far between." It ought to be mentioned also, that one co-operating cause in consummating this disastrous condition was the unhealthiness of the neighborhood, occasioned by a large body of meadow being covered with stagnant water, the natural outlets having been obstructed during the cutting of the canal, which greatly depressed and paralyzed the energies of the citizens. After the completion of the canal, however, the health of the country began to improve, and with it the dormant energies of the proprietors of the soil were aroused. A few enterprising men, with sound judgment and ample means, by a judicious appropriation of both upon their lands soon brought them up to their former fertility, and even beyond it; for not content as my friend "A Young Farmer" with his sixty bushels of corn per acre, they demand of old mother earth, shall I say it? *One hundred* bushels per acre! In fact my next door neighbor has a field of thirty acres at this time growing, which if it does not yield per acre the above number of bushels, then must the decision of the question whether an acre of land [in this section] can be made to yield 100 bushels, be forever put to rest. [!]

As might be expected these praiseworthy examples have exercised a benign influence throughout the district. Enriching the land, and thereby increasing its fertility, has become of paramount importance. I might go so far as to say, a passion, not as evanescent as the multicaulis fever must certainly be,—but more permanent and abiding.

Lands have risen in value, so much so, that in Red Lion Hundred in particular, there are not one half dozen farms that can be purchased for less than $50 per acre. It may be conjectured by a "Young Farmer," and others unacquainted with our location and resources, that these prices cannot be sustained. It is the opinion of many intelligent men, that they have not reached their acme, for several reasons. Our resources for enriching the soil, and convenience to market. Our soil with some exceptions is composed of a loam, based upon a yellow clay subsoil, having a very good proportion of clay and sand, the two essential ingredients in a good soil; the surface moderately undulating and free of rock-stones. Until very recently, vegetable and animal manure and lime were the principal agents in renovating the soil, the latter costing on the landings from sixteen to twenty cents per bushel.

Shell marl and green sand marl have been recently discovered of a very superior quality in inexhaustible beds in different sections in both Hundreds; and here, at the hazard of becoming prolix, it is but justice to say that the community is mainly indebted to the Agricultural Society of New Castle county in petitioning the Legislature for a Geological Survey of the State; and when their request was complied with, *then*, and not till then, was a decisive effort made on the part of the farmers to search for it; and try its fertilizing properties. True, it was known to exist some time previous, and some of it tried was found to be good, but skepticism as to its value spellbound the community, until the anticipation of having the marls analyzed, stimulated them to renewed efforts. As an illustration of its fertilizing powers, I will state that one of my neighbors covered a field at the rate of 15 bushels per acre, 20 bushels to the load. The land was a wheat stubble and the next spring put in corn and succeeded with oats, each succeeding crop decidedly improved by the operation, clover was sown with the oats, and last summer the average yield of hay was *two tons* per *acre*. Let it be distinctly understood, however, that the field had no vegetable manure or lime either, for ten or fifteen years previous. It cannot be otherwise than good, else the fertilizing ingredients of soils are little understood. The shell marl has twenty per cent. of the carbonate of lime and forty per cent. of green sand. The green sand has from six to twelve per cent. of potassa.

Then as to convenience to markets, we yield the palm to no section of country. We have a daily intercourse with Philadelphia of but few hours' ride in commodious steam boats at a cheap rate, where all kinds of marketing as well as grain can be taken with much greater comfort, and about as cheap as those who reside within ten or fifteen miles of the city. We are also within six days' sail of

Boston with our corn and oats, obviating the necessity of selling to merchants, who, content with a small commission, obtain for us the highest prices. [!] The latter advantage I consider of itself enhances the value of our lands ten per cent., when a permanent residence is in anticipation. I have now enumerated some of the advantages incident to our location; and apprehensive lest I have extended this communication even now to the exclusion of much more profitable matter, I will conclude by renewing my invitation to an "Old Subscriber" to visit us and judge for himself. JUVENUS ARATOR, A. M. H.

For the Farmers' Cabinet.

Dialogue between a Father and Son.

ON THE SPREAD AND APPLICATION OF MANURES, &c.

Father.—This is the proper time to carry abroad the compost on the meadows which lie out of the reach of the watering system. Here is a short table showing how many loads are required to cover an acre, the heaps being dropped at given distances.

No. of heaps to a load.....	1	2	3	4	5	6	7	8
At 5 yards distance.....	193	96	64	48	38	32	27	24
At 5½ yards distance.....	160	80	53	40	32	26	23	20
At 6 yards distance.....	134	67	44	33	26	22	19	16
At 6½ yards distance.....	114	57	38	28	22	19	16	14
At 7 yards distance.....	98	49	32	24	19	16	14	12
At 7½ yards distance.....	86	43	28	21	17	14	12	10
At 8 yards distance.....	75	37	25	18	15	12	10	9

Frank.—I believe that persons are divided in opinion respecting the proper state in which stable manure should be carried on to the land. Some say it should be applied in its fresh state, others advise that it be dried to a "pinch of snuff." Who are right?

Father.—I believe, as in almost every case, so in this, extremes are equally wide of the truth. I do not consider that stable manure in its fresh state, and before fermentation, is properly the food of plants, and to carry it abroad at that time is, I conceive, to deprive it of a great part of its energy; while to dry it to a "pinch of snuff," is to dissipate a large portion of its bulk as well as energy. The best time for use is after the first fermentation; there is still sufficient remaining to cause a partial action in the soil, which communicates vigor to the seeds and plants, and they are, at the same time, supplied with a pabulum fit for their sustenance. Perhaps there might be somewhat of analogy between this kind of fermentation and that which takes place on mixing sugar with water; this mixture, you have heard, will produce spirit, or alcohol on distillation, but that it will not do until after fermentation, and when that has subsided it soon turns to vinegar; so that, as I said, extremes are bad.

All animal and vegetable manures have a tendency to rise in the soil; this is owing to fermentation, which takes place in those substances, by which they are rendered *gaseous*, you see the steam or vapor flying off the dung-hill in the yard? that is properly gas; it follows then that when manure is carried abroad in this state it ought immediately to be turned in, but as that cannot be done upon the meadows, the dressing intended for them should undergo a more complete fermentation; indeed, I always prepare a compost, and find it more valuable for the purpose. You know that *compost* means *mixture*—this heap is *composed* of ditch and bank earth, stable dung and lime, and having been properly *mixed* by turning, I value it equal to so much stable yard manure.

You know there are several kinds of manures, animal, vegetable, and calcareous, or mineral. The first is by far the strongest, and consists of flesh, blood, hair, wool, bones, &c. and the dung obtained from slaughter-houses is, on this account, of three times the value of the best stable dung. The second is composed of peat, straw, leaves, and herbage of all kinds; and the last of limestone, chalk, marl, shells, &c., all which will effervesce in acids, and burn into lime.

Frank.—But you have not mentioned the most common of all the manures—stable dung; what ought that to be called?

Father.—It has been called animo-vegetable. But, come, let us go in, the dew falls heavily; I see we shall have no rain to-night.

Frank.—I have often heard you make that remark, but cannot conceive from whence you draw your conclusions.

Father.—Common observations have generally some truth; and I often amuse myself by inquiring into their origin. With regard to the one of which we are speaking, I conceive that the cause arises from what chemists call *affinity*: that is, the desire which two bodies of the same nature and density have to unite, how, during the day, the warmth of the sun draws up from the earth a vast quantity of water in the state of vapor; this ascends into the higher regions of the air, and remains in that state so long as the upper atmosphere continues warm: that which rises during the night, however, becomes condensed by the cold evening and night air, and falls back on the earth, in drops of dew or water; but when the upper atmosphere becomes colder than the lower region, there is an inclination in the vapor contained in it to condense, and then, the exhalations of the night arise through the warmer or lower re-

gion, for the purpose of meeting the falling shower, and both descend together.

Frank.—I wonder why farmers are accounted an uninformed class? It certainly is not for want of opportunity to exercise their mind and judgment. They are surrounded with wonders, and I begin to hope that every thing will not be discovered before I become a man, as I once feared would be the case.

Father.—With many persons, agriculture is a subject which must not be reasoned upon or inquired into, and this is no doubt the cause why farmers are generally considered the least cultivated class of society: but I see not why this should be—with us, it ought not to be. Another observation is, that it is colder just before sunrise, in the morning, than it has been during the night, even in the severest weather; and I have had opportunities of verifying the truth of the remark. I was once folding sheep before sunrise in the month of January; it was sufficiently light for me to see the sheep as they were lying around me, and there was nothing remarkable to call my attention; in an instant, however, and just before the rising of the sun, they became covered with hoar frost! I thought of what I had so often heard, and was certain that I *felt* as well as *saw* the truth of the observation.

Frank.—And did you endeavor to account for, what I suppose it may be called, this phenomenon?

Father.—Yes I did, at the time it was before me. At the rising of the sun, or more properly before that takes place with us, the upper region of the atmosphere becomes suddenly illuminated and warmed, which causes an immediate expansion; the lower region is thus, as it were, pressed downwards, and becomes condensed into water or hoar frost, the effect of which is sensibly felt by all who are exposed to it. The remark has often been made by the night coachmen, particularly by the driver of the Norwich mail into London, by the way of Hackney, who describes the latter part of the journey, about Cambridge Heath, as far colder than what is felt on any other part of the road; there he passes, in the coldest and shortest days, before the time of sunrise. It is also said, that on every calm morning the wind blows towards the east just at the time of sunrise, although it has blown before, and might blow afterwards, from some other point of the compass: this too I have observed, but never without emotion—it appears a sort of devotion, which creation is paying to the rising sun; and on a fine spring morning, when accompanied by the voices of animated nature, the effect is truly indescribable! This is caused by the rarefaction of the upper regions of the air, occasioned by the heat of the sun, which creates as it were a vacuum, to which the surrounding atmosphere rushes for the purpose of supplying the void; and at this moment might often be heard, what is generally considered a *creation of the fancy*—"*the music of the spheres.*"—This rushing sound, fabulously supposed to proceed from the chariot wheels of the "*car of Phœbus,*" I have often witnessed. The same effect, arising from the same cause, namely, the rarefaction or expansion of air, when coming in contact with heat, might be noticed while sitting around the fire on a quiet evening, when the rushing of air towards the fire, causes a sound distinctly audible.

Frank.—I shall never see the sun rise again without feeling much more interest about it than I have hitherto done. I do not wonder that many of the Heathen nations pay their adorations to the rising sun; I am sure it is, in the absence of the knowledge of *Him who made the sun*, the first object worthy their regard.

Father.—There is just one more observation which I have to make. I had often heard it said, when in England, that there was but little evening twilight in America; that the day closes almost suddenly on the departure of the sun, and thus the inhabitants are deprived of the most pleasurable part of the day: now this, it must be acknowledged is the fact; and although I have never heard the circumstance accounted for, it must be occasioned by the different circumstances and situations of the two countries. In England, the great ocean lies to the westward; the sun, sitting over it, its rays are reflected by the surface of the waters and the air is illuminated long after the sun has sunk below the horizon; while here, on the seaboard of America, the great ocean lies to the eastward, and the sun sets amidst the dense woods of the forest in the west, from whence no rays can be reflected. Now if this one theory be correct, we ought to find the difference in the twilight of the morning in both countries exactly to correspond; the morning twilight in America should be the longest and brightest.

Frank.—And so, I am sure it is! *that's fact.* Now I guess that is something new.

Father.—We shall find it necessary to take advantage of this circumstance for a few days to come, and take the top of the morning; for as we mean to plough up the four acre field while the weather is open and the land free from frost, and as the ridges of that piece are very short, in consequence of its triangular shape, we shall find a sensible difference in the length of our day's work—these *lengthening*, in proportion to the *shortening* of the land.

Frank.—But is not an acre of land an *acre*, wherever it is?

Father.—Yes, and although you must have noticed the difference of time requisite to turn an acre when the land is long, compared with the time consumed when it is short, neither you or any one else could easily believe the difference to be so great as it really is. Here is a table, showing that difference, and a most interesting one it is.

PLOUGHING.

Names of Fields.	Length of Ridges.	Breadth to give an acre.	Breadth of the furrow slice.	No. of furrows in the acre.	Time that it takes in turning.	Time taken up in turning the soil.	No. of hours in the day's work.
	yds.				h.m.	h.m.	hrs.
Short Lands.....	78	186	8 in.	279	4.39	3.21	8
Harper's Hill.....	149	98	....	147	2.27	5.33	....
South Mills.....	200	73	....	109	1.49	6.11	....
Eastbourne.....	212	69	....	103	1.43	6.17	....
Long Croft.....	274	53	....	79	1.19	6.41	....

When the ridges are no more than 78 yards long, four hours and thirty-nine minutes are spent in turnings in a journey of eight hours! whereas, when the ridges are 274 yards long, one hour and nineteen minutes are sufficient in the same length of time.

Frank.—Indeed, no one would have calculated the amazing difference, and the next time we hear of ploughing against time, I shall not fail to inquire the length of the ridges.

For the Farmers' Cabinet.

Anti-Septic Effects of Lime Water.

The Mechanics' Magazine having just arrived from England, I extract from it the following letter on the preserving of wood by lime water. The Cabinet already contains some information on this subject, but perhaps, it would be well to show that the experience in England agrees with that of our own country. The most likely way, in my opinion, to bring it into general use, would be for some industrious person to take out a patent for it, and sell out, state, county, and township, as well as individual rights, to use the process; —say charge each and every farmer five dollars for the privilege of steeping his posts in lime water, and it would soon become universal; some would pay the fee, and others would make a merit of evading the pretended patent right. The old folks would affirm that there was nothing *new* about it, that they knew it before the patentee was born, though they had omitted to try it themselves, and the young ones would shrewdly suspect that it did not differ much in principle from the well known practice of white-washing.

Z.

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Preserving Wood by Lime Water.

Sir,—I some years ago called the attention of the readers of your instructive periodical to Sir Charles Steward Menteith's, (of Closeburn, Dumfrieshire,) simple *unpatented* method of preserving timber; I think it so valuable a process that it cannot be too often published. It is as follows, after cutting the timber to the size it will be wanted, it is steeped in a pond of lime and water for a fortnight, or more or less time, according to the size of the wood. Sir Charles has now some farm buildings on his estate, the timber of the roofs of which is the common young Scotch fir, but having undergone the *lime water* process, it is as sound, after a lapse of forty years, as the day it was put up; the same timber, under ordinary circumstances, and in similar situations, would rot in from three to seven years. The carpenters find, in working the wood thus treated, that the edges of their plane-irons soon become dull, on examination, it is found that the acid contained in the wood is chrystallized by combining with the alkali of the lime.

Yours faithfully,

ARTHUR TREVELYAN.

Wallington, Newcastle, Tyne, }
7th of May, 1839. }

For the Farmers' Cabinet.

Barn-Yards and Manure.

There is no branch of agriculture so much entitled to the consideration of the farmer as that of the accumulation and preparation of the food of vegetables. All are aware that the principal source of vegetation is that of putrescent matter; consequently, their attention is naturally directed to the collection of as much vegetable and animal substances as possible. Barn-yards are appropriate recipients for such accumulation. South exposures are the most desirable locations. The direct influence of the sun greatly promotes decomposition. The bottoms of barn-yards should be level, and so enclosed that the extracts from the manure produced by rains, should be retained as much as possible. The bottom of the yard should have a covering of loose earth, of some inches, which is designed as an absorbent to retain the extractive mat-

matter, and to be removed in common with the other manures when employed for agricultural purposes. The covering of earth should always be renewed previous to the commencement of the re-accumulation of putrescent matter. When the stock of cattle and horses are to be finally removed from the barn-yard for the summer, the surface of the putrescent manure should be covered with a mixture of earth and hydrate of calcium. The effect of this covering is of much importance, as it serves to retain moisture, and to promote decomposition. The hydrate of calcium being soluble, a portion may be dissolved, and descend into the putrescent matter; there, meeting with carbonic acid, it becomes a carbonate, and consequently insoluble. The hydrate of calcium remaining on the surface, will absorb the carbonic acid formed by the putrefaction of the matter underneath. It will also obtain a considerable quantity from the atmosphere, thereby treasuring up a large amount of the food of vegetables, to be used at the discretion of the farmer, that would otherwise have been lost. Previous to removing the manure from the barn-yard, it should be well mixed, forming an excellent compost for any purpose that may be desired.

July 19, 1839.

To the Editor of the Farmers' Cabinet.

The Divining Rod.

"Felix qui potuit rerum cognoscere causas."

Sir,—I choose the somewhat hackneyed quotation given above for a motto to the present communication.

It was Thomas Jefferson who said "error of opinion is seldom dangerous when reason is left free to combat it;" but there are so many errors of opinion already existent in the world, that to add to them is as unwise as it is improper and unnecessary. Error is multiform, and may exist in a thousand different shapes, while truth is a unit, and has but one mode of existence. It has often been my lot through somewhat of a long life, first to correct the errors of opinions in my own mind, and then in the minds of others.

Editors of public journals cannot be held responsible for *all* the errors that make their appearance in their pages; but as they have a controlling influence over the press, and as they are caterers for the public appetite, they should exercise a wise and discriminating influence in their selections.

These introductory remarks have been elicited by a communication in the last number of the Farmers' Cabinet, under the caption of "*The Divining Rod*," signed, too, by what I take to be a *real* name, James Pedder, who treats the subject with as much gravity as if it were absolutely true; while in my humble opinion, it is deserving of no more attention than the long since exploded belief in astrology, necromancy, and witchcraft.

It is now about forty years since I first heard of the wonderful power of "*The Divining Rod;*" and a more egregious folly I am sure never entered the mind of mortal. A man by the name of Lewis, long since dead, was the simple subject of its operations. He was a farmer, in middling circumstances, who not satisfied by the slow gains of agriculture, was determined on taking a shorter road to wealth by finding a mine of gold by the magical operations of "The Divining Rod." By the plausible pretensions of a sharper, who professed to have the *power* of using the rod, he was persuaded to sell his farm, and go in quest of hidden treasures, in the bowels of the earth. The rod was described as being a forked *hazel*, in the form of the letter Y, and the peculiar manner of holding it was also described; however, I had, a short time after, an occular and practical demonstration of the rod, and the mode of holding it. Being somewhat sceptical of its powers, I took it in my own hands and found a constant tendency in it to turn down. It must be observed that in comparing it to the letter Y, the tail is to be turned *upward*, and it is to be grasped by the hands by turning the thumb of each hand *outward;* an awkward and uneasy position of holding it, and as soon as the attention is drawn off, and the *firm grasp* relaxed, the tail, by the motion of the body in walking, necessarily turns *downward.*

Now as it regards finding water in any *particular* spot, what is there in it extraordinary? It would indeed be extraordinary to find any particular spot on this globe where water could *not* be found. Of the many thousand wells that I have seen dug, I never knew but *one* abandoned without finding water.

The instance in which I first saw the rod in actual use, was in Cayuga county, in the state of New York. Being on a journey in the year 1800, through that part of the country, I saw a man by the road side about something that I did not at first comprehend, but on closer inspection, I found he was using what I had heard described by Lewis as *the Divining Rod.* I stopped, entered into conversation with him, and found he was a Doctor of medicine, by the name, if I now recollect right, of Cole. A distillery had lately been erected, and as the quantity of water afforded by a spring was found to be insufficient for its operations, he was trying the rod to ascertain whether water could be found by sinking a well. I asked what were the indications, and whether he thought water

could be found. He said the rod *drew hard and pointed strong* to a particular spot, and his opinion was that water could be obtained by digging twenty-five feet. Then taking the rod in my own hands, and pretending I had *the power* of using it, but at the same time knowing it to be a sheer hoax, I traveled off about a hundred yards, and relaxing my grasp, let the rod turn down. Here, said I, you will find water by digging *fifteen* feet. Returning that way some months after, I found the proprietor, having more faith in my skill than in that of Dr. Cole, had sunk a well on the spot pointed out by me, and found water at the depth of about twelve feet.

Now let us return to the poor dupe Lewis. After selling his farm and getting the money, he traveled over the country, supporting the sharper who carried his rod, in search of buried treasure. Sometimes it drew for *water*, sometimes for *lead*, and at last for *gold*. Well, hands were employed to dig, but they soon came to a hard rock; the rod still pointed to the gold as lying underneath the rock; then they must get men to blast and blow it to pieces; the hidden treasure would ten times cover all expenses. The rock was penetrated and rent asunder. The hills reverberated with thunder-like blasts of gunpowder, and poor deluded Lewis was just on the point of seizing the iron pot of gold, placed there before the flood, when the guardian genii of the place caused it to disappear from the astonished sight of the workmen. What was now to be done? The sharper, never at a loss for stratagems while the money of Lewis lasted, said a man lived about forty miles off, who had found, in ploughing an old field, once a battle ground, *a curious glass*, which had the power of laying the evil genii of the golden treasure. Away posted our hero of golden dreams for this wonderful glass, but it was found on using it that its influence extended only to a certain depth in the earth, and the pot of gold was just two feet six inches *below* its power. The owner and operator of the glass gave a history of the manner in which it was prepared, and endowed with its power over the evil genii. The Indians, who inhabited this country before Europeans, had so far power over these genii that once in a hundred years they could kill one with an arrow dipped in a certain stream, covered with an oily substance which flowed into the Pacific ocean. When one was killed, a glass must be laid over his face as he lay in his grave, and there lay one hundred years. After that time the glass would possess power over the genii of that place as deep in the earth as it had lain for that period. The golden pot lay just two feet six inches lower than the glass had laid, consequently it had not power over the pot of gold.

With such tales poor deluded Lewis was amused until he found his pockets empty; but still believed all true as Holy Writ, and took great pleasure in rehearsing his golden adventure of an evening after a hard day's work with his broad axe for my father; for he was obliged to take up his trade of carpenter, after having fooled away his farm.

W. L. Horton.

Harford county, Md., June 24th, 1839.

For the Farmers Cabinet.

Agricultural Chemistry.

The many very important facts and hints contained in Sir Humphrey Davy's Agricultural Chemistry, and the cogent arguments on many interesting subjects with which it abounds, renders it very important that it should be introduced to the farmers of this country; but the expense and difficulty of disseminating it amongst our farmers, has induced me to go over it, and cull from it various interesting matters that admitted of separation, without injury to the sense; these I have copied out and forwarded for publication in the Farmers' Cabinet, hoping they may be useful to your numerous readers.

Agricola.

No manure can be taken up by the roots of plants, unless water is present; and water or its elements exist in all the products of vegetation. The germination of seeds does not take place without the presence of air or oxygen gas.

Plants are found by analysis to consist principally of charcoal and aeriform matter. They give out by distillation volatile compounds, the elements of which are pure air, inflammable air, coally matter, and azote, or the elastic substance which forms a part of the atmosphere, and which is incapable of supporting combustion. These elements they gain either by their leaves from the air, or by their roots from the soil.

All manures from organized substances contain the principles of vegetable matter, which, during putrefaction, are rendered either soluble in water or aeriform—and in these states, they are capable of being assimilated to the vegetable organs. No one principle affords the pabulum of vegetable life; it is neither charcoal nor hydrogen, nor azote, nor oxygen alone; but all of them together, in various states and various combinations.

Plants require only a certain quantity of manure; an excess may be detrimental, and cannot be useful.

Slacked lime was used by the Romans for manuring the soil in which fruit trees grew. This we are informed of by Pliny.

Nothing is more wanting in agriculture than experiments in which all the circumstances are minutely and scientifically detailed. This art will advance with rapidity in proportion as it becomes exact in its methods.

Discoveries made in the cultivation of the earth, are not merely for the time and country in which they are developed, but they may be considered as extending to future ages, and as ultimately tending to benefit the whole human race; as affording subsistence for generations yet to come; as multiplying life, and not only multiplying life, but likewise providing for its enjoyment.

Plants, being possessed of no locomotive powers, can grow only in places where they are supplied with food; and the soil is necessary to their existence, both as affording them nourishment and enabling them to fix themselves in such a manner as to obey those mechanical laws by which their radicles are kept below the surface, and their leaves exposed to the free atmosphere.

Herbs, in general, furnish four or five times, and shrubs two or three times, as much potashes as trees. The leaves produce more than the branches, and the branches more than the trunk. Vegetables burnt in a green state produce more ashes than in a dry state. The following table contains a statement of the quantity of potashes afforded by some common trees and plants.

10,000 parts of	oak	furnishes	15	parts of	potash.
" "	elm	"	39	"	"
" "	beech	"	12	"	"
" "	vine	"	55	"	"
" "	poplar	"	7	"	"
" "	thistle	"	53	"	"
" "	fern	"	62	"	"
" "	cow thistle	"	196	"	"
" "	wormwood	"	730	"	"
" "	vetches	"	275	"	"
" "	beans	"	200	"	"
" "	fumitory	"	760	"	"

The earths found in plants are four; silica or the earth of flints, alumina, or pure clay, lime, and magnesia. They are procured by incineration. The lime is usually combined with carbonic acid. This substance and silica, are much more common in the vegetable kingdom than magnesia, and magnesia more common than alumina.

Potatoes in general afford from one-fifth to one-seventh of their weight of dry starch.

One-fourth part of the weight of the potato at least may be considered as nutritive matter.

Mr. Knight says that he has found the best potatoes heavier than the inferior varieties.

Fruits, in the organization of their soft parts, approach to the nature of bulbs. They contain a certain quantity of nourishment laid up in their cells for the use of the embryo plant; mucilage, sugar, starch, are found in many of them often combined with vegetable acids.

If a solution of lime in water be exposed to the air, a pellicle will speedily form upon it, and a solid matter will gradually fall to the bottom of the water, and in a certain time the water will become tasteless; this is owing to the combination of the lime, which was dissolved in the water, with carbonic acid gas which existed in the atmosphere.

The principal consumption of the carbonic acid in the atmosphere, seems to be in affording nourishment to plants; and some of them appear to be supplied with carbon chiefly from this source. Carbonic acid gas is formed during fermentation, combustion, putrefaction, respiration, and a number of operations taking place upon the surface of the earth; and there is no other process known in nature by which it can be destroyed but by vegetation.

It is evident, that in all cases of tillage the seeds should be sown so as to be fully exposed to the influence of the air. And one cause of the unproductiveness of cold clayey adhesive soils is, that the seed is coated with matter impermeable to air.

In sandy soils the earth is always sufficiently penetrable by the atmosphere; but in clayey soils there can scarcely be too great a mechanical division of the parts in the process of tillage. Any seed not fully supplied with air, always produces a weak and diseased plant.

The great object in the application of manure should be to make it afford as much soluble matter as possible to the roots of the plant; and that in a *slow* and *gradual* manner, so that it may be *entirely* consumed in forming its sap and organized parts.

All *green succulent plants* contain saccharine mucilaginous matter, with woody fibre, and readily ferment. They cannot, therefore, if intended for manure, be used too soon after their death.

It is usual to carry straw that can be employed for no other purpose, to the dunghill, to ferment and decompose; but it is worth experiment, whether it may not be more economically applied when chopped small by a proper machine, and kept dry till it is ploughed

in for the use of a crop. In this case, though it would decompose much more slowly, and produce less effect at first, yet its influence would be much more lasting.

Manures from animal substances, in general, require no *chemical* preparation to fit them for the soil. The great object of the farmer is to blend them with the earthy constituents in a proper state of division, and to prevent their too rapid decomposition.

By covering dead animals with five or six times their bulk of soil, mixed with one part of lime, and suffering them to remain for a few months, their decomposition would impregnate the soil with soluble matters, so as to render it an excellent manure, and by mixing a little fresh quick lime with it at the time of its removal, the disagreeable effluvia would be in a great measure destroyed; and it might be applied in the same way as any other manure to crops.

The refuse of the different manufactures of *skin* and *leather* form very useful manures; such as the shavings of the currier, furrier's chippings, and the offals of the tanyard and of the glue-maker. The gelatine contained in every kind of skin is in a state fitted for its gradual solution or decomposition; and when buried in the soil, it lasts for a considerable time, and constantly affords a supply of nutritive matter to the plants in its neighborhood.

[To be continued.]

For the Farmers' Cabinet.

Essays on Agriculture.---No. VI.

BY JOSEPH CLOUD.

As the object of the use of calcium in agriculture is that of obtaining an increase in quantity and perfection of vegetation, which the result of long practical experience and extensive use seems to justify—the important question naturally presents itself—how does it operate to produce that effect. If this was better understood, it would reflect much light on the subject of the most judicious use as to quantity and mode of application. It has been suggested that it is probably in itself one of the essentials of the food of plants, and that by its union with carbon and other important material of vegetation they are in a state of preparation to be received as nourishment. These views of the subject will be particularly noticed in the consideration of the food and growth of plants. It is also probable that it may act as a septic and promote putrefaction. The hydrate in a state of solution, being absorbed by the putrescent matter and consequent exposure to the influence of carbonic acid, it necessarily becomes concrete particles of carbonate, which being interposed between particles of the putrescent matter, in some degree destroys their attraction of aggragation, thereby presenting the unprotected particles to the more direct influence of oxygen, the great agent in promoting putrefaction. An excess, however, of calcium, would prove an anti septic and prevent decomposition by an accumulation of the particles of insoluble carbonate of calcium, a protection would be formed preventing the access of oxygen to the putrescent matter and preventing decomposition similar to the effect produced by white washing. Calcium may also produce a considerable mechanical effect in changing the texture of soils, rendering them more or less retentive of moisture, the particles becoming carbonates and interposing between the particles of silex and alumine; in the first case lessening the distance, and in the other increasing it—the effect produced is necessarily the result. No chemical union taking place, the particles of carbonate remaining distinct and separate bodies possessing the power of absorbing carbonic acid until they become super carbonate. Thus, after having served to qualify the texture of the soil and treasured up a quantity of the food of plants, they become soluble in water, and in common with the other essentials of their necessary food to be taken up by the absorbing roots and conducted into the general circulation, where they are appropriated to their respective uses by the operation of the laws that govern vegetable organization.

The diversity of opinion prevailing respecting the quantity of calcium that may judiciously be used per acre, and the best mode of application renders it a subject meriting consideration. Not presuming to direct or prescribe rules for the government of others, it is however, suggested, that thirty to thirty-five bushels may probably be found sufficient for a single application. That quantity would doubtless be sufficient to receive and retain all the carbonic acid that could be presented from every source during the usual period of rotation of crops. It is believed to be desirable to retain it as much on or near the surface as possible, thereby promoting its facility in combining with carbonic acid presented by the atmosphere, and also that produced by the decomposition of the putrescent matter in the earth, which could not be so extensively effected if buried deeper than the putrescent matter, the carbonic acid by its elasticity and consequent ascension would escape the action of the calcium and be lost. Another important reason in favor of the surface is, that when it arrives at the state of soluble super carbonate, it is more directly exposed to the influence of moisture, and in closer connection with the absorbent roots of vegetables.

For the Farmers' Cabinet.

THE MOLE TRAP.

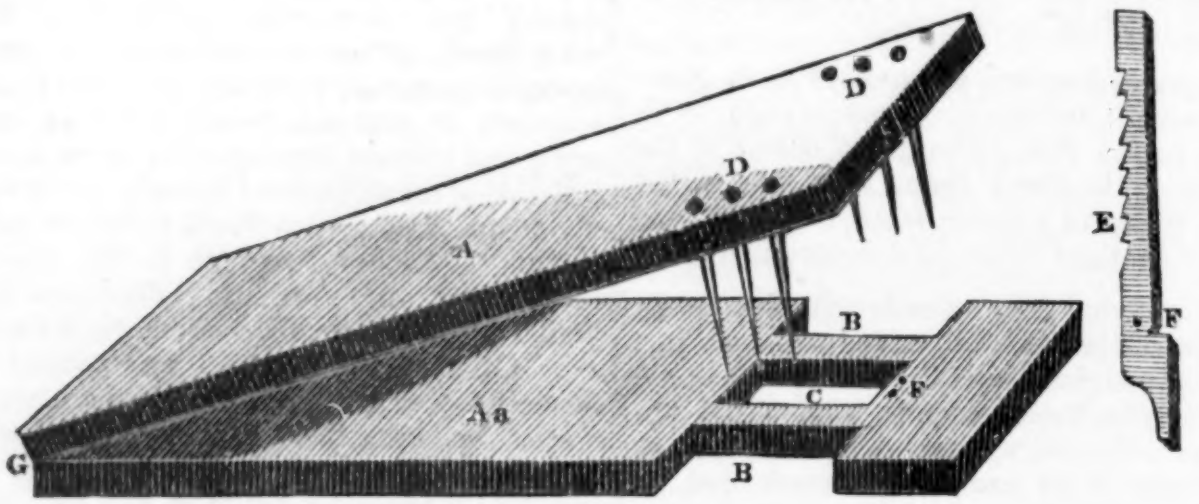

Fig. 8.

As there is nothing among the small troubles of life more provoking than to have one's garden reduced from the freshness of spring and promised luxury of teeming vegetables all summer long, "to the sere and yellow leaf" in a few days, by these little enemies to the gardener's hope; who dig and delve and plough without mercy among his peas, and beans, and potatoes, and corn, and tulips, and hyacinths, and whatever else happens to have a root to his taste, I send you a rough and hasty sketch of a trap I have used five or six years, which if properly set never misses its victim. It can be made for about fifty cents.

A A a are two oak boards, the upper one 2, and the lower 2½ feet long, 6 inches wide and 1 inch thick: in A a is cut a mortise C 4 inches long, 1¼ inches wide, and the two pieces B B taken out of the sides, each 1½ inch deep: D D are six iron teeth seven or eight inches long, well sharpened and passed through A, three-quarters of an inch asunder, so as to strike down into the ground close to the sides B B.

E is the treadle, made of good oak, 1 inch wide—drop into the mortice C and fasten by a wire staple, passed though the hole at F, and fasten by clenching underside at F in the bottom board A, so as to play freely an inch under the bottom. At G is a butt hinge fastening the two boards together. In setting the trap use the common figure 4 sticks, except the upright must be made of a piece of board and have a mortice cut to stride the treadle E as it stands on the end of A a; press down the run solid, where the treadles end touches it, with your heel, and put a weight on the top of the trap. Yours respectfully,

Mahlon S. Kirkbride.

Morrisville, 6th mo. 17th, 1839.

Hens will, it is said, be sure to furnish an extra quantity of eggs, if you deal to each about a gill of oats per day.

Vegetable Silk.

To the Editor of the Farmers' Cabinet.

Sir,—Can any of your readers give us information respecting the *vegetable silk* which is at present all the rage in Paris! It was first imported by Mons. Pary, and is said to be an excellent substitute for the animal silk, being quite equal to it in very many cases.—It is gathered in lengths from ten to fifteen feet, and four threads plaited together will sustain a weight of 40 pounds! Now, in all probability this plant would flourish in this country, and the shoots be much longer in our soil and climate—then the people might "*grow silk*" indeed. I. D.

Philadelphia, July 29th, 1839.

Fruit Trees.

The new method of raising fruit trees by planting the scions, is a great desideratum in the art of raising good fruit. It has many advantages over grafting, because it is more expeditious, aud requires no stake nor tree.—They may be planted where they are required to stand, and the labor of one day will be sufficient to plant enough for a large orchard after the scions are obtained. The method of preparing the plant is as follows: Take the scions as for grafting, and at any time after the first of February and until the buds begin to grow considerably, and put each end of the shoot in melted pitch, wax, or tallow, and bury it in the ground, the buds uppermost, while the body lies in a horizontal position, at the depth of two or three inches. We are informed that trees obtained in this way, will bear in three or four years from the time of planting. We have no doubt of the practicability of this method of raising fruit. A gentleman in this vicinity the last season, planted about twenty scions of different kinds of pears, which appear to flourish. The composition which he used was shoemakers' wax.

Warming Rooms by Heated Air.

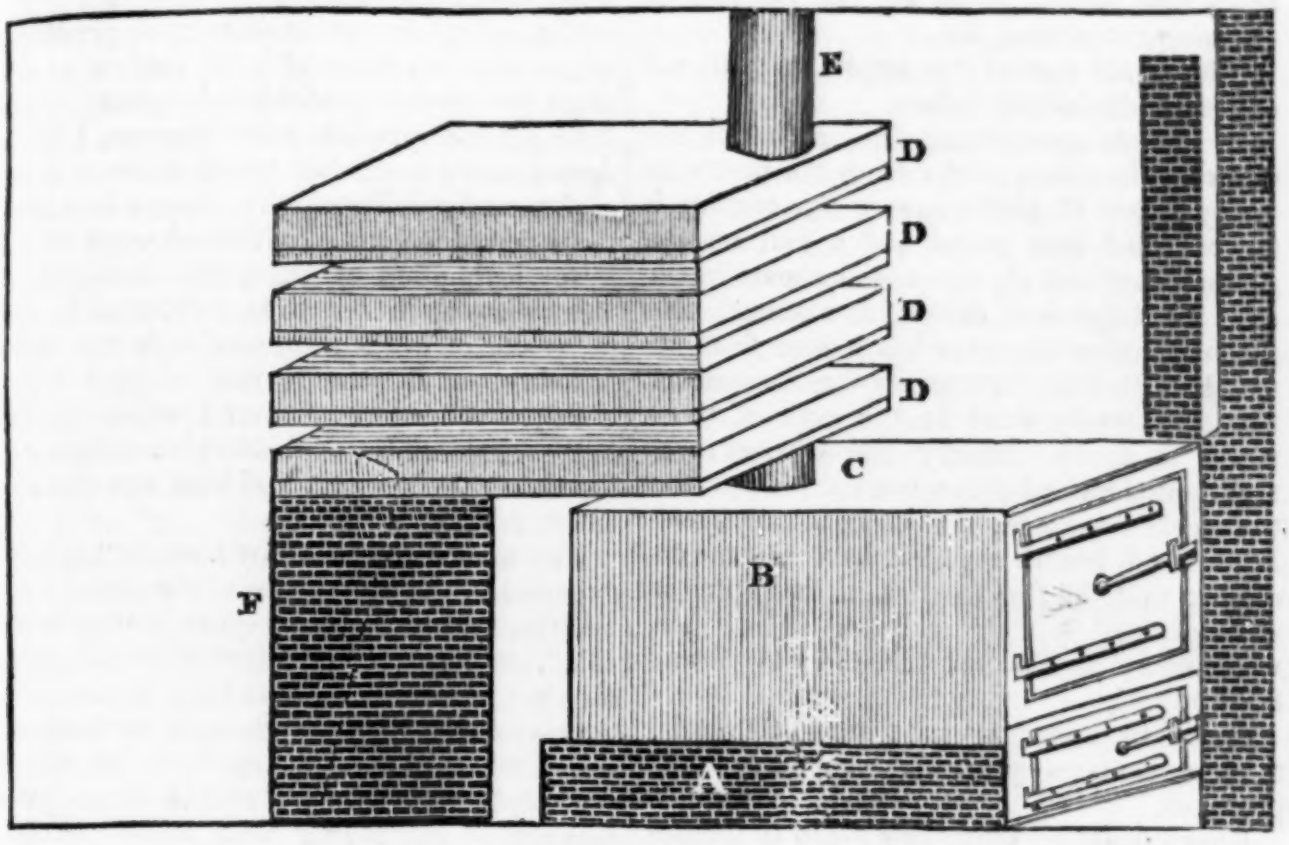

Fig. 8.

"In peace prepare for war,' is a maxim as important as it is familiar to our readers. Our present version of it is, in summer prepare for winter. This is our reason for offering at this time the following article from the Genesee Farmer on warming rooms by heated air. The subject is one of importance.

EXPLANATIONS.

A Ash-pit; B Furnace; C Flue; D Drums; E Smoke-pipe.

In the figure the ash-pit is supposed to be eight inches in height, with a door in front, in which is an aperture for the admission of air.

The furnace above it is constructed of cast iron plates. It is three feet in length, eighteen inches in height, and of the same width. A grating upholds the wood.

The flue C is eight inches in diameter, and two inches in height.

The drums D are three feet in length, eighteen inches in width, and four inches high. They are connected by flues at their alternate ends, similar to C. Their number may be profitably increased, if the height of the room will allow. The two upper ones are of sheet iron.

The smoke pipe E may be carried where most convenient. On account of the rapid accumulation of soot, however, the shorter the distance, the better.

For the purpose of cleaning the drums, a small door is made in the back end of each. They are supported at the end opposite the furnace by a brick wall, F.

At the distance of two feet from the furnace, a brick wall is constructed around the whole. It is carried up four inches above the upper drum, and is then extended across, supported by bars of iron. Outside of this, and leaving at the sides and top a hollow space of two inches, a wall is built similar to the former.

It will be observed by reference to the figure, that the *inner* wall in front is carried over the furnace, and a space is necessarily left in the outer one opposite the door. On one side of the furnace four or five holes, four inches square, are left through both walls near the bottom. The air passing through these becomes strongly heated in its ascent, by the drums, wall, &c., and is conducted by pipes of tin from eight to twelve inches in diameter, set as nearly upright as possible, to the rooms above. Grates of brass or iron on a level with the floor regulate the quantity of air admitted, and consequently the heat of the room. The furnace should be set in a room in the cellar entirely devoted to the purpose, and the window left open; but if this cannot be done, an air trunk one foot square must be constructed, leading from without the building through the outer wall of the furnace; for few things are more injurious than the breathing an atmosphere loaded with the products of the fermentation of vegetables which are kept in the cellar.

In the end wall, opposite the front, a double sheet iron door is placed, sufficiently large to allow a person to go in for the purpose of cleaning the drums, &c.

The whole cost of this apparatus will not exceed one hundred dollars.

A furnace constructed similar to the one described has been used during the past winter by James C. Hathaway, of this town. It has warmed four rooms and a hall on the ground floor, and the bed-rooms above, in the most thorough and delightful manner. No inconvenience whatever has arisen from its use, but at least two-thirds the amount of time previously used in the care of those rooms is saved. Every housekeeper will readily understand this when she reflects that the words fire-place, shovel and tongs, andirons, wood, hearth rug, &c. have become obsolete; that the fire-board is nailed up as in summer, and a truly summer feeling pervades every part of the house, by night and by day.

It will be unnecessary at present to refer to the advantages which the "hot air system" promises.

I have heard no objections made to the use of the furnace which could not be readily answered. The principal ones are—

1. On the score of health. A little examination will convince any one that it is *preferable* on this account to any other method, inasmuch as the most perfect system of ventilation is established.

2. "On account of warming feet." An eccentric friend of mine says, "I think when I go into thy house on a cold day, that I must flee to the kitchen fire, but I try to be quiet a few minutes, and behold, the trouble is over."

3. "A fire is so cheerful, so pleasant to look at." If the objector would look at a *book*, his uneasiness would leave him; besides the feeling of drowsiness occasioned by a fire is hardly perceived.

It may, perhaps, be a sufficient answer to all objections, that the "hot air" is gaining ground with all who have any knowledge of it, and that several will probably be constructed the ensuing summer.

Wm. R. Smith.

Farmington, 3d mo. 2, 1837.

Cabbage Plants.—Wood ashes placed about cabbage plants will much improve their condition. Frequent hoeing will serve to keep the ground moist, and will help their growth.

The dryest ground in the garden is in the thickest growth of weeds. These suck up the moisture and give it to the winds.—*Boston Cultivator.*

The Silk Business—Its Agents—Odd Times, &c.

To the Editor of the Farmers' Cabinet.

Sir,—I know not whether it is permitted to the female portion of your readers to address you in your professional capacity, but if it be not incompatible with decorum, I feel a desire to say a word or two in defence of our *rights and privileges*, as a class, whose laborious and incessant solicitude demand for us, in my estimation at least, the character of *partners*—as in the toils incidental to the profession of husbandry, so also in the more pleasing and legitimate task of good housewifery. All, however, that I require is, that we be considered by our husbands as *helpmates*, deserving their regard and kind attentions—but to the point.

You must know, that my husband has been engaged in the cultivation of the morus multicaulis, with the real intention of "growing silk," and more, of manufacturing it from the cocoon! thus proving that he is the *one in a thousand* who has ever thought seriously of doing, what all pretend to have in serious contemplation. Now, I should never have thought of interfering with these pursuits, had it not been for a conversation which passed yesterday at our table, by which it appears that *we* are to be considered the chief workers in the business, the real *silk worms!* for just at the point when their labor ends, and a short labor, or rather pleasure it has been to them, *ours* is to commence, and be carried through *the thread* of our existence. Our guest at table was from Philadelphia, and commenced by inquiring, "Well, how comes on the morus? Ah! the making of silk must in the end prove the making of this great country; so admirably calculated for the employment of *our* redundant population; affording a profitable investment of capital to any extent; enormous profits to all those engaged in the various departments connected with it, from the growing of the trees, to the weaving silk dresses for *our* fair ones, and embroidery for *our* drawing rooms; and to none more than to the wives and daughters of *our* farmers; thus affording *our women* and their children, profitable and elegant employment at *odd times!*" At this I looked up, and beheld a youth about seventeen, "all red and white, like a pork griskin," as the song says; with hair "a la turcq," and scented to the nose—just escaped from that band-box of fashion, a dry goods' store in Market street! My choler rose, the fire kindled, and I at length spake with my tongue—but do not suppose that I said more than a *prudent* woman should; there was no need of that, for the little creature diminished to the size of a chrysalis, and I could have rolled him into a cocoon! I merely said, "That is kind of you, Mr. ——,

to find employment for *your* women at *odd times*—the oddest thing I ever heard of—for the *industrious* wives of farmers never have any *odd times*, and I am sure the indolent are not those who will take it up as an employment at *odd times*. Besides, I am much mistaken if any good can come of an employment which requires the incessant and all-enduring patience of a whole life, proverbial for wearing out the energies of both body and mind, if it is to be taken up only at *odd times!* You say it is particularly adapted to the family of a farmer occupying a few acres of land! Now in the name of common sense, and in the name of every industrious female in the country, what is meant by this? in a country too which is spreading far and wide her arms, entreating those industrious families, who are willing to take up so unhealthy and debasing an employment at *odd times*, to come west, and cultivate the land and walk upright in the glory of nature! No, no, Mr. ——, before I submit to fill up my *odd times* in this way, I will *carry* my husband where he may be able by *his* industry to enable me and my children to employ our *odd times* in a far more agreeable way, in the improvement of our minds and bodies, leaving the silk business to those countries whose wretched inhabitants (notoriously deformed in body and imbecile in mind, fit subjects for a tyrannical and monarchial government) are compelled to toil for fifteen hours for about half as many cents; and with all this misery and starvation, you see they cannot afford to sell the articles, which they fabricate at such a sacrifice of body and mind, for less than the price which they command in the market at the present time. You seem, too, to have alighted upon bad times, for you see the import duty on silk is taken off. I know that you all rely upon the enormous bounty which the states are giving for the production of these articles of doubtful good, but I can only say I am mistaken if these encouragements to speculation will remain in operation for six months longer; and when the excitement has passed away, these states will view this piece of legislation as about the height of the morus folly."*

After the young man had taken his leave, which he scarcely waited to do, I learnt that he was a stripling from one of the wholesale dry goods' stores in Market street, endeavoring to form "A Joint Stock Trading Morus Multicaulis Company, with a capital of about five hundred thousand dollars," the directors of which were to have the privilege of buying and selling their stock, of both kinds I presume, at whatever prices they might deem most advantageous to the good of the company. The president and other officers had all been chosen, to whom liberal salaries had been appropriated, and this young worthy, so anxious to find employment for *his women* at *odd times*, is to figure as treasurer!

JANET JENKINSON.

Bucks Co., July 4th, 1839.

Hussey's Mowing and Reaping Machine.

We have repeatedly called the attention of farmers—large grain growers—and there are thousands in Pennsylvania and the adjoining states—to the great advantages of this machine. It is probably the best of the kind in the United States; and we have no hesitation in pronouncing it vastly superior to any similar article. It has been tried repeatedly, and in no instance has it failed; and it invariably exceeded the expectation of those who were called together to witness its operations. The machine is described at page 198 of the second volume of the Farmers' Cabinet. A wood cut is also given, which, with the account of the inventor, will enable almost any person to form a pretty accurate idea of its mode of operation. The Philadelphia Agricultural Society appointed a committee some time in the latter part of the summer of 1838, to superintend the operations of the machine. The report, which is of the most gratifying character, may be found in the third volume of the Farmers' Cabinet, page 282. The committee say that it operates well when the grain is so much fallen or lodged as to be entirely beyond the reach of the cradle—lays it in heaps ready for binding—not a stalk is left standing, while the stubble is all of an uniform height—about seven inches. They further say "the *loss* by this mode of harvesting is greatly reduced," that the performance was at the rate of ten to

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* Our fair correspondent is justly indignant at the arrangement made for the filling up of her *odd times;* and she but expresses the sentiment of all high-minded and intelligent females throughout the country. The rebuke, though severe, was well merited; and none but the guilty will wince under its application. There is no design, we are assured, to reflect in the least, upon the modest, discreet young men who officiate as clerks in this city; far from it. Many of them are persons of untarnished reputation, sound judgment, and gentlemanly demeanor, who treat all with whom they have intercourse with common civility at least.—These constitute the intelligent class, and will ever command respect and esteem. There is another class, admirably described by Mrs. J. We presume its numbers are not numerous. At any rate, after the well merited castigation given above, we think they must *decline.* We hope Mrs. J. will become a regular correspondent. There are many subjects on which she might employ her pen, and fill up her *odd times* to the advantage of her fair country women.

twelve acres per day, but may be increased to double that amount—but this in a field badly lodged—the grain dead ripe, having stood two weeks longer than necessary, and yet say the committee, "*scarcely a grain could be found shattered out.*"

The advantages of this improved machine to the grain grower, are too apparent to require any notice at our hands. The price, one hundred and fifty dollars, no doubt deters many from purchasing it. But its *value* is to be taken into the account. Said a gentleman to us the other day, I lost at least one hundred dollars for the want of a similar machine—while engaged in harvesting. I had about twenty acres of the finest wheat I ever raised, beaten down by a violent storm of rain and hail. Had one of these machines been put to the work, my grain would have been out of the reach of danger. Every man who cultivates grain crops on the large scale, should furnish himself with one; and in neighborhoods where the farms are small, a number of farmers might easily join together and purchase one jointly; or an individual might procure one and mow and reap for the farmers of the neighborhood at a stipulated price per acre.

It affords us much satisfaction to say that Mr. Hussey is in a fair way of being compensated for many years of anxious toil, and labor and solicitude. His machine answers the purposes of its invention. It is not only spoken of in the highest terms by farmers in Maryland and Delaware, who have tested its merits; but they are coming into *general use* among the farmers of those states—and most cheerfully do we commend them to the attention of our Pennsylvania farmers.* We ask the attention of the reader to the following communication.

For the Farmers' Cabinet.

New Reaping Machine—Great Saving.

On the 4th of July the farmers of this neighborhood enjoyed the pleasure of seeing the Reaping Machine, invented by Mr. O. Hussey, of Baltimore, operate upon a field of wheat. Mr. Hussey had been invited to exhibit his machine before the "*Society of St. George's and Appoquinimink for the Promotion of Agriculture*," and the 4th July was named as the day; and true to his appointment, Mr. Hussey and his patent reaper made their appearance. Hundreds of farmers were assembled to witness it, and many were the doubts, surmises, and criticisms upon the machine, as it was viewed over and over, as it lay in readiness for trial. Some time after Mr. Hussey's arrival, the society was called to order, and the Declaration of Independence was read, while the greatest order and attention prevailed; after which the society adjourned to the dinner-table and partook of an excellent dinner, prepared for the occasion. These interesting preliminaries being despatched, and all things being in order, *the two strangers* (Mr. Hussey and his machine) were duly introduced to a field of standing grain, ripe and ready for the sickle, and in the twinkling of an eye the machine was off, clipping and cutting, and saving the grain in beautiful style. A cleaner and more even stubble could not be produced. All doubts vanished in the minds of the spectators. Every head of wheat was saved, and the machine was drawn with apparent ease by two horses, and cutting at the rate of from twelve to fifteen acres in a day. The machine was forthwith purchased by the society, and reserved for future trial, which has since confirmed them in the good opinion they had of its capabilities. All who have witnessed it express themselves satisfied, and many are intending to provide themselves with machines for the next harvest. Thus, through the influence and exertions of the agricultural society, we may expect next year to see this valuable labor saving and grain saving machine fairly introduced among our farmers. It is a difficult matter to describe the machine so as to convey a proper idea of its structure; I hope, however, that many will be induced to see for themselves, and they may rely upon having all reasonable expectations realized.

Yours, &c., N.

Middleton, Del., July 15, 1839.

We ask the attention of our friends to the suggestion of our correspondent D. A. in the following communication. These suggestions are as well timed as judicious. Arrangements have been made at the Agricultural Ware-House and Seed Store, No. 87 North Second street, a few doors above Arch street, Philadelphia, to receive for exhibition SPECIMENS OF CROPS OF ALL KINDS. And it

*We would suggest to Mr. Hussey the propriety of depositing somewhere in this city a machine or model for the examination of farmers, thousands of whom visit our city every year.

would afford us no little pleasure to communicate through the columns of the Cabinet whatever might be remarkable or interesting regarding their *birth-place, parentage, and education.* To this end we invite the communications of farmers and all others interested.

There are now many new and improved implements of Agriculture and Horticulture at the Ware-House, and many additions are being made. They are open for inspection at any hour of the day, and the proprietors will, with the utmost cheerfulness, give such explanation and attention as may be necessary. As a visit to the establishment will cost nothing, farmers and others interested in the promotion of agricultural science, are requested to call and examine the new and improved implements for themselves, bearing in mind, however, that the concern is still in its infancy.

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Sugar Beets—To Farmers—Feeding of Ewes.

To the Editor of the Farmers' Cabinet.

Sir,—Having taken a deep interest in every thing relating to the culture and management of the sugar beet, from the time of its first introduction into this country by the Beet Sugar Society of Philadelphia, I feel very anxious of knowing what are the prospects of the crop in this, the finest season that ever shone forth from the heavens, for every species of vegetation, the *morus multicaulis excepted.* Will therefore your friends, many of whom have had the prudence to cultivate largely the present season, inform us through the pages of the Cabinet, what has been the management pursued, and what the results; and will they, at the time of taking up their crops, deposit some of the roots at the Agricultural Ware-House, No 87 North Second st., [which is also the publication office of the Cabinet,] for the inspection of their friends and the public generally. Each sample of roots should be accompanied with a notice, stating the mode adopted in the cultivation, the yield of the crop per acre, and the plan pursued for winter preservation.

And will they reserve a good portion for the purpose of *feeding their ewes at early lambing*, confining the lambs, after a few days old, to the house, and bringing the ewes to suckle them three times a day, according to the mode practised in those counties in England, which are famed for supplying the London markets with fat house lambs in winter. The stall for the lambs should be clean, dry and warm, and kept well littered with straw; three or four lambs in each will be sufficient, and these should be selected according to age, size and strength. Each stall should be furnished with a manger in which dry food is to be fed to them when they are of an age to eat it, and a chalk stone should be placed in each stall; by licking it, disorders arising from acidity of the stomach are prevented, and the lambs will thus be found to thrive and fatten in a very short time. The ewes should be plentifully supplied with roots at this time, but if their teeth be good, there will be no need of cutting them. D. A.

July 29, 1839.

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The preceding communication of D. A., brought to our mind a similar one received more than a year since, from our friend James Pedder. It was not published at that time, for the simple reason that we had not sufficient room for carrying out the purposes of so laudable an enterprise. We have now, as has been before observed, at the agricultural rooms, and additions are being almost daily made to the number, many *new* and improved implements. It will be perceived that Mr. Pedder's proposition embraces a wide scope; and most cheerfully will we assist in carrying out so noble a plan by receiving all such articles as come within its legitimate range, as the public spirited farmers of the country may see fit to deposit with us. Mr. P.'s proposition is not all *theory*—he acts as well as advises, and already we have received from him several very interesting contributions: among them his beet rasp, models of drills, &c. We hope that the farmers will bestir themselves in this business—if each one would but perform his part, in a short time Philadelphia might boast of an *Agricultural Museum.* The materials are abundant.

While on this subject it may not be amiss to invite the inventors and manufacturers of new or improved implements—and also such as have received and maintained public confidence, to deposit specimens for examination. It is one of the best methods of making them generally known. But each specimen should be accompanied by a full, plain, and accurate account of the machine.

The following is Mr. Pedder's communi-

cation. We hope he will excuse the long delay. It suits well at the present time.

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To the Editor of the Farmers' Cabinet.

Sir,—Would it not be to the interest of your valuable work, if its friends were to make a depository at your office of remarkable specimens of the various articles relating to the subjects to which it is devoted, either in the way of memoranda, papers, books, drawings, documents, maps, tools, implements of husbandry and horticulture, and models of machinery; field and garden crops, fruits, flowers, and *weeds*, both in their green and dried state, for the inspection and examination of those, and the number would not be few, who would resort thither for information and instruction. I am confident it would be the means of introduction to many new subscribers, and add greatly to the popularity of your much approved periodical; and as example is better than precept, I beg to accompany this with two or three articles as a commencement. I would respectfully suggest that each article should have attached to it a descriptive notice; specimens of crops, where grown—tools, &c., where made, and by whom, and where in use; maps, books &c., where published, and how to be obtained if desired; and if your friends enter warmly into the subject, I shall expect soon to see a large and interesting collection. I am, sir, respectfully,

James Pedder.

Philadelphia, June 21, 1838.

For the Farmers' Cabinet.

Lime.

Mr. Editor,—Believing as I do that the only proper mode to make a proficiency in agriculture or in any department of labor, is, by a due regard to and proper use of the experience of others. I cannot but express my earnest wish for the promotion and extension of a paper which furnishes so admirable a convenience for the promotion of the agricultural interest. This principle, of a recurrence to the experience of others, is of the highest importance in every thing pertaining to agriculture, and most especially so, in regard to the proper application and production of lime, a subject which has been agitated of late years. On reviewing several of the late numbers of the Farmers' Cabinet, I have seen much has been said about lime, which is of untiring interest to the farmers of the lime districts of our country, and has been expatiated upon ably by your contributors, stating its true chemical properties, and its wondrous effects as a manure upon land. But as its application as a manure is of somewhat a recent date, and many who have engaged in the extensive and laborious business have not had much experience as to the most proper modes of burning lime, it would be a subject of deep concern to them and to the agricultural interest, if more was said, if convenient, about the construction of lime kilns, the filling and burning of them. People differ much on these points, but experience will teach them which is the safest and best modes of procedure. I.

June 15, 1839.

[Our Correspondent "I" is most respectfully informed that we have the promise of one of our most esteemed and enlightened correspondents, a lime burner, as well as a practical farmer—of a communication on this subject, with suitable diagrams or cuts. The use of lime in agriculture is of great importance; we know that by its application certain effects are produced, but *how* produced has not yet been determined. In the prosecution of our work the subject of lime will receive due attention. Gentlemen who have used it on their grounds, or made it a matter of investigation are requested to communicate such facts or opinions in regard to it, as they may deem calculated to throw light on the subject.]

Culture of the Broom Corn—Salem, N. J.

To the Editor of the Farmers' Cabinet.

Your letter of the 20th July was received on the following day, asking information respecting the cultivation of broom corn, and the quantity raised on my land per acre. In answer thereto, I say that my land is a loamy soil, and in good condition, producing generally about sixty bushels of Indian corn per acre—of wheat from twenty to thirty—and of barley from thirty to fifty.

My usual method is to cart out all my manure from the barn-yard through the winter and early in the spring, so that the greater part thereof is upon the fields by the time the plough can be put into the land. The cultivation of the broom corn by Mr. Brown (the paper you say heretofore sent to you being lost, giving an account thereof) and by him attended to until the brooms manufactured by him were sent to market, amounted, according to his estimate furnished me, to $96 50. While in conversation with him he drew from his pocket a paper containing the following words:—"Was raised on eight acres of land, the property of Robert G. Johnson, broom corn that made four hundred dozen of brooms, that weighed one and a

quarter pound each. Many of the stalks measured sixteen feet six inches in length, and produced four hundred and thirty bushels of seed. ISRAEL E. BROWN."

I would observe that I commonly manure my land at the rate of from thirty to forty loads per acre—such was the dressing the land got previous to the planting of the broom corn. The land being in high filth, produced, from careful attention, a most luxuriant crop of stalks; I think they must have averaged from fourteen to sixteen feet in height throughout the whole field. I have not been inclined to encourage the rearing of the broom corn more than a sufficiency for family use. I consider the broom corn a much more exhausting crop to the soil than any other grain. There appears to be an oleagineous quality peculiar to it, and somewhat analogous to flax seed, which in my judgment has a tendency to produce the impoverishment of the soil. The seed makes excellent food for hogs and cattle.

Its nutritious quality may easily be discovered from the fine color and taste which it imparts to butter from the cows which are fed on it. The best way to use the grain is to grind it with a portion of oats—say about one-third of oats to two-thirds of the seed. Indeed it is so hard and flinty that it should always be ground before feeding it to any kind of stock.

Good broom corn seed weighs about fifty pounds to the bushel. Its value compared to oats may be considered as about half as much again; so that should the market price of oats be, say twenty-five cents per bushel, the broom corn seed would be worth thirty-seven and a half cents.

BROOMS.

I think there is a difference of twenty-five, if not thirty per cent. in the quality of brooms sent to market, from such as I generally use in my family. I always endeavor to procure from the manufacturer, and for which I pay him an extra price, such as are made from the stalks before the seed ripens on them. A broom made from such tops will last much longer than one made from the ripe brush. But the peculiar excellency of the broom consists in its fibres being more soft and elastic, and performing the act of brushing or sweeping, similar to the brush made of bristles, without injuring the carpet if used prudently. After the broom shall have been used in sweeping the parlor, and the finer parts worn away, it will then be as good to sweep the other parts of the house, as the best new broom made from the ripe corn. Ladies who set so deservedly such a high value upon their beautiful Turkey and Brussels carpets, should purchase none other than such as are made from the unripe brush. The broom made from such may be easily known by the color of the straw, which is that of tea or sage; the fibre or straw is much finer and of a softer feel than that of the broom made from the ripe corn—the color of which is red, or inclining to red.

Yours very respectfully,

ROBT. G. JOHNSON.

For the Farmers' Cabinet.

Important and Useful Remedy.

The readers of the Farmers' Cabinet will no doubt be surprised at finding an article within its pages so foreign to the usual direction of your publication. Information, however, in which every individual in society may have an interest, should not be withheld, but communicated to them through the medium most likely to be generally diffused and rendered permanent. If recorded in medical books, it would rarely meet any other than the physician's eye—and publications in the newspapers of the day endure but for a moment, when read they are cast off as useless, and their contents no more remembered. We often meet with distressing accounts of the fatal effects produced by taking corrosive sublimate into the stomach, where it acts as a virulent poison, inevitably producing death unless a prompt and efficient preventive is presented that will disarm it of its destructive properties. Fortunately, infallible preventives are within the reach of every person, which require neither medical skill or experience for their administration. Corrosive sublimate is a compound of muriatic acid and mercury. The antidotes are carbonates of soda and potash. If to a solution of corrosive sublimate a solution of carbonate of soda or potash be added, an immediate change is produced; the muriatic acid unites with the soda or potash, forming a muriate of soda or potash, while the carbonic acid unites with the mercury, forming a carbonate of mercury, a harmless substance which may be removed from the stomach by any carthartic medicine. As the quantity of the carbonates necessary to be given must depend on the quantity of corrosive sublimate taken, and as there might be difficulty in ascertaining the amounts, it would in all cases be advisable to give a sufficient quantity to insure a perfect neutralization, nor is there any danger to be apprehended from a small excess.

WEALTH.—Wealth in this country may be traced back to industry and frugality: the paths which lead to it are open to all; and such is the joint operation of the law and the customs of society, that the wheel of fortune is in constant revolution, and the poor of one generation furnishes the rich of the next.

Cultivation of the Cauliflower.

To the Editor of the Farmers' Cabinet.

Sir,—Having met with unprecedented success in bringing the *Cauliflower* to the highest state of perfection, by the same simple process of cultivation as the cabbage, and with the hope of stimulating others to "go and do likewise," I am induced to lay before you an extract from my garden dairy—"Purchased the seeds of Messrs. Landreth, & Co., sowed it broadcast, Sept. 19th, 1838, in a bed of common garden mould; October 26th removed the plants into a cold frame of the same kind of mould; April 10th, 1839, transplanted them into the open garden; May 29th cut for the use of the family.

These noble plants stood in the open garden *undaunted*, and with their neighbors, the cabbages, *patiently* endured the "pitiless pelting of the storm."

My success is fully demonstrated by the following statement of the circumference of six heads of the flowers *wholly divested of their leaves.*

	Circumference.	Weight.
No. 1	3 feet 1 inch,	8 lbs.
2	2 " 7¾ "	"
3	2 " 6¾ "	"
4	2 " 6 "	"
5	2 " 5¾ "	"
6	2 " 5½ "	"

The circumference of the largest flower as it stood in the garden, and taken at the extremity of its leaves, was thirteen feet seven and a half inches.

I continued to cut abundance of fine flowers from May 29th to the middle of July.

I beg leave particularly to direct your attention to the remarks of the editor of the "United States Gazette," now enclosed.*

I am, sir,

Respectfully yours,

Gregory Lee.

Frankford, near Philadelphia, July 30, 1839.

To the Editor of the Farmers' Cabinet.

Sir,—Having just recovered from an attack of chill and fever by the use of the *Indian Remedy*, I beg to recommend it to your readers generally, and especially to those who, like myself, are careful how they submit themselves to what is called a *regular course* of medicine, which too often causes an *irregular course* of nature for a long time after.

I found an account of this admirable, cheap and very pleasant, as well as effectual, remedy in Baron La Hontan's voyage to North America, a very old and scarce book, containing his travels into the interior, where in many places he was the first white man that had ever appeared. The course of his travels may be seen traced on the maps of his time, and his book is extremely interesting and amusing.

J. Cansel.

Western Shore, Md., 24th July, 1839.

"In a conference I had one day with a savage, the barbarian said, with a great deal of sense, that 'good air, good water, and contentment of mind could not indeed keep a man's life from coming to an end, but that at least it must be owned that these advantages contribute, in a great measure, to make a man run through the course of his life without being sensible of much disorder or inconvenience. They make a jest of the impatience of us Europeans, who would be cured as soon as sick; they allege that our fear of death, occasioned by the invasion of the least fever, does so inflame and fortify the disease, that oftentimes we fall a sacrifice to fear itself; whereas, if we looked upon our illness as a trifle, as well as our death, and kept our bed with patience and a good heart, without offering violence to nature by cramming down drugs and medicines, the good old Dame would not fail to comfort and refresh us by degrees and in her own time."

America.

Extract of a letter from an Emigrant to his friend in England.

"Every ship comes full of emigrants—thousands of Germans, who go about two or three thousand miles into the western woods; you would be surprised to see the cars on the western rail road, they are canal boats placed on wheels, and are driven along by steam twenty miles an hour; and when they reach the canal, they are hoisted off with their loading of men and merchandise, and swung at once into the canal, and from thence again on to the rail road, without the necessity of disturbing a passenger or parcel! On board of these passage boats the passengers cook their food, and proceed day and night, scarcely knowing or feeling it, at a very cheap rate.

"Every one is busy—no complaining in our streets; plenty for every one to do, and no mention whatever of politics. Abernethy used to say, 'a man in perfect health ought not to *feel* that he *has* a stomach,'—here then, all must be healthy in the body politic, for no one *feels* that there is a government. The churches are crowded, each one pays his minister what he pleases, and they are well paid and well supported too—none are *tolerated**—all have the *right* to think and act for themselves."

D. W.

22nd May, 1839.

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* The article referred to from the United States Gazette, was not enclosed when the communication was placed in our hands.—*Ed.*

* *Toleration* is the height of *intoleration.*—*Horne Tooke.*

SPIRIT OF THE AGRICULTURAL PRESS,

BOTH AT HOME AND ABROAD.

IMPORTANCE OF AGRICULTURE.

The GREAT BUSINESS *of our country is* AGRICULTURE. 1. Because it *feeds* us, and furnishes the *materials* for our clothing. 2. Because it gives useful employment to five-sixths of our population. 3. Because it is the primary source of our individual and national wealth. 4. Because it is the nursing mother of our manufactures and commerce; as neither would prosper or long exist without it. 5. Because it is essential to national independence. From this view, (which is undoubtedly a correct one,) it will be seen that *agriculture* is the **great** business of the American nation. That it is worthy the most liberal patronage of our governments, state and national—that it ought to be enlightened by a better (and thorough) education of the agricultural class—that it ought to be encouraged and rewarded by public bounties or rewards—that it ought to be respected from its highly salutary influence upon our republican institutions, and upon the good order of society; and, finally, that it ought to be honored, at least according to its intrinsic merits, that it may be more followed, by men who have minds, as well as hands, to accelerate its improvement.—*Cultivator.*

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The use of Sulphur in preserving plants from insects, is recommended by Dr. MEASE, in the Domestic Encyclopedia. The recommendation is endorsed by the editor of the Cultivator in his last number. He states that dusted upon grapes, in the grape-house, they have prevented mildew upon the fruit. "It is equally efficacious in the open ground, till the sulphur is washed or blown off. For many years, we have lost most of our early cabbages by a maggot which preyed upon the stem under ground. By mixing sulphur with the grout in which the roots of the plants are dipped before planting, the evil has been wholly prevented; and if the plants are plunged deep in the grout, so as to coat the base of the leaf stems, they are protected from the grub. If scattered upon the rows of young cabbages and radishes, before or after they are up, it would probably be efficacious in protecting both the tops and bottoms."

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GREEN CORN STALKS FOR FODDER.

Where soiling, that is, feeding with cut green food in summer, forms any part of farm economy, we doubt not that corn, sown broadcast for this purpose, may be made to form a very profitable crop, either as a main dependance, or as auxiliary to short or spare pasture. It gives the greatest burthen of green food, and of as nutrient a quality as clover, though it can hardly be made to yield a cutting before August. It might well come in after clover, as food for cows and pigs. Mr. Holt, of East Haddam, Ct. has made some experiments in raising corn in this way for soiling; and he has found that sixteen square rods of ground, sown with gourd seed corn, the 12th June, gave food and subsistence for a horse fifty days, and thirty-three days for a cow. An acre would in this way, he thinks, feed thirty cows for a month. A small patch could not fail to be serviceable on any dairy farm, to supply the deficiency of pasture in August and September.—*Ib.*

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HINT ON TRANSPLANTING.

The common error in transplanting trees, is not making the holes, or pits, for their reception sufficiently broad and deep. The roots require a mellow soil to strike down and horizontally in; and if the earth under and around them is left undisturbed and hard, they cannot extend themselves for food, or but very slowly; the plant consequently grows but slowly, if it survives. The following experiment, made by M. CHALERMEAU, illustrates the importance of this hint. The hole should not be proportioned to the extent of the roots *as they are*, but to their extent as they *may be* and *should be*.

"Four peach trees, resembling each other as to size and vigor of growth, as much as possible, were planted. No. 1 in a hole three feet square; No. 2 in a hole two feet square; and Nos. 3 and 4 in holes eighteen inches square. The soil and exposition similar. No. 1 has every year given the most abundant crops, and the relative sizes of the trees are now as follows: the stem of No. 1, eighteen feet high and eight inches in circumference; that of No. 2, nine feet high and five and a half inches in circumference; No. 3, six feet high and three inches eight lines in circumference; and No. 4, five and a half feet high and three inches in circumference."

Showing a difference between No. 1 and No. 4—between large holes and small holes—of five inches in circumference, and twelve and a half feet in height. Apple, pear, and forest trees, generally having a larger spread of roots than the peach, require proportionally larger holes.—*Ib.*

Raising Wheat with Profit on Mountain Ground.

A few years ago Col. Moses Learned purchased a considerable tract of land on Black Mountain in Piermont, at the distance of about five miles from Connecticut river: for this land he paid one dollar the acre. In the year 1835, on twenty acres newly cleared by chopping and burning, he raised 500 bushels of wheat, averaging twenty-five bushels to the acre. In 1837, on thirty-seven acres of the same kind of clearing, and about five acres of old cultivated ground, he raised 1084 bushels of wheat, averaging more than twenty-five bushels to the acre. In 1838, his crop of wheat was upwards of 700 bushels, of which was twenty-nine acres of the new ground, which averaged nineteen bushels to the acre. The present year (1839) he has growing twenty-three acres of wheat on the new ground, and five acres upon the tilled ground; and he has the trees chopped of twenty-five acres of heavy wooded land for a crop the next season.

We have ascertained, that of the golden fields which we saw in New Hampshire, from the mountains of Vermont, the most prominent, because the largest, was the clearing of Col. Learned upon the Black Mountain.—The experiment and the enterprise of this gentleman are worthy of extensive notice.—His crop of wheat in 1837 was 1084 bushels. This wheat, taking into consideration the entire expense of clearing the land, fencing the ground, furnishing the seed, reaping and conveying to the barn, the straw paying for threshing, cost precisely and no more than eighty-three cents the bushel. On this crop that year the Messrs. Learned (the father and son are joint owners of the farm) made a clear gain of eight hundred dollars. To this profit may be added the improvement of the land. The cost in its wild state was one dollar the acre. Cleared and laid down to pasture, the land is worth at least ten dollars the acre. No part of the growth on this new land was saved either for timber or fuel—the whole wood was consumed. Col. Learned paid for the clearing ten dollars the acre.—The increased value of the land, without the crop, it will be no extravagance to say, will pay for both the original cost and clearing; and this too upon mountain ground where the forest growth is of more value for the manure of its ashes on the spot than for any other use. Add the increased value of the ground, ready for further profitable use, and the gain of this operation in a single year, was nearly *twelve hundred dollars!*

Spring wheat was the kind exclusively sowed by the Messrs. Learned: no crop can be more certain than this kind of wheat on newly burnt ground. Col. L. prefers, instead of the common method of chopping in the month of June when the leaves are in full growth, that the trees should be felled in the preceding fall, winter or early spring while the snow is not deep: from the longer drying he obtains a more perfect burn. The kinds of wheat he has hitherto used are the common bearded wheat and the bald or tea wheat. The present season he has growing a portion of the Black Sea wheat.

REMEDY FOR THE SMUT.

He mentions a safe, an easy, and perfect remedy for smut, which he has successively tried. For each bushel of seed wheat, he takes two ounces of blue vitriol dissolved in two quarts of water. This generally will dry of itself when applied to the bushel of wheat, which may be sowed either the same day it is applied, or at any time within a week.—Seed wheat already smutty should be washed clean before the preparation is applied; and the quantity of two ounces of vitriol to each bushel, should be dissolved in as small a quantity of water as possible. Smutty seed thus prepared will propagate but the merest trifle of smut in the subsequent crop.

THRESHING BY HORSE POWER.

Col. Learned, as do most of the extensive farmers on Connecticut river their small grains, threshes his wheat with horse power, generally after the fall work is completed. It will be seen from the quantity of wheat he has raised, in the course of four years he has cleared on that crop the price of a valuable farm. His experience has demonstrated that wheat may be raised in the mountain region of New Hampshire with quite as large remuneration for the labor, as can be obtained in the famed wheat regions of the west.—*Farmers' M. Visitor.*

Causes of Seeds not Germinating.

Without a certain degree of moisture seeds will not germinate. On dry sandy soils, and in a dry season, it seems highly probable, then, that seeds may be deprived of the requisite degree of moisture. But the seeds may have germinated, and commenced to send out their roots and stem stalks, and yet be destroyed. If the soil is not pressed closely to the seeds, and very dry weather occurs just at this period of the process of germination, the root being too distinct from the soil, and too feeble to draw any supply of moisture, the liquid food of the plant contained in the fermented seed may be dried up, and the life thus destroyed.

If you would avoid disappointment and loss from seeds failing to grow, the preventive process is indicated by a knowledge of the causes most frequently productive of this result, which we think are those stated above.

If you sprout your seeds before putting them into the ground you will preserve them from the first cause of failure, but if you pulverize your soil thoroughly and press it in this state with hoe, spade, or roller, upon the seeds thus sprouted, the root stem will soon and surely derive sufficient moisture from the soil.

In a few instances I have found my neighbors blaming the seed as useless, particularly of onions, carrots and parsneps, when I have obtained a little of the same seed, and found it to sprout quite well. You may easily save yourself from such reflections, or from the temptation to blame others, by steeping the suspected seed in warm or tepid water from six to twenty-four hours, according to the size and hardness of the seed, and then sitting it away in a warmish place for a day or two.—If good it will sprout in this time; if kept warm in a darkish place, and it does not sprout in this time, the seed is faulty.—*Ib.*

Seed Corn.

A correspondent says—

Several circumstances incline me to the belief that corn which has been sprouted—no matter in what steep—is safe from the ravages of the red or wire-worm. It has been fashionable to steep in a strong solution of copperas, and to ascribe the safety of the seed in this state, not to the change which fermentation has produced in the germ or chit which is usually first attacked, but to the change in the taste from the copperas. We have known corn soaked in simple water—in water alone—to escape from the attacks of the worm as well as that soaked in a copperas steep. Until this matter is made more certain, however, I would hold it bad husbandry to neglect the copperas, as in addition to the change produced by heat and moisture, we have also the disagreeable taste communicated by this salt.—*Ib.*

Sow Pure Wheat—Remedy for Smut.

Chauncey Goodrich, Esq., of Burlington, Vermont, says,—"In your last number I noticed three communications on the culture of wheat; although they are all valuable, perhaps I may add a little to them. As to *smut*, I believe if clean seed is sown, the following preparation of it is an infallible remedy—also that it will soon eradicate all smut from foul seed. Soak the seed twenty-four hours in a strong brine, strong as it can be made, letting it cover the grain—drain it off and stir in fresh air slacked lime until it is dry, when it may be sown. It is still better to have the wheat spread on a floor when the lime is stirred in, and let it be until fully dry, as the lime will adhere better to the grain.—Wheat so prepared should not be passed through a smut mill, as the brine would then be sure to destroy a part, and if soaked too long, nearly all. Another advantage of soaking in brine is, that it is so much heavier than water, that oats and all light seeds will float on the surface, and may be taken off. I have known this practised twenty years on my father's farm, and by others, and never saw any smutty wheat from clean seed so prepared, even when adjoining fields would contain so much as to almost ruin the grain.—*Ib.*

Diseases of Cattle—Its Remedy.

Numbers of cattle, during the last winter, died from over-feeding, or other obstruction of the intestines: the symptoms were a protruded size from swelling, sometimes very suddenly. A sure remedy has been found by the farmers in Bradford, Hillsborough, and some other towns in this state, by mixing a quantity of apple cider with old cheese made from the milk of the cow—say half a pound or more of cheese grated in a pint of cider. This mixture, poured down the throat of the swelled animal, has been known to effect a cure by carrying off the swelling in a few minutes.—*Ib.*

Salt for Killing White Weed.

When the white weed has not become too plenty upon the farm it can be eradicated and its spread prevented by a little care and attention, and "an ounce of prevention is worth a pound of cure." Many who have small patches upon their farms dig up all they can find, but still some of the roots are left and spring up the next summer to the no small annoyance of the farmer who supposed that he has rid himself of the pest. Mr. L. Whitman of this town informs us that he followed the plan of digging until he was tired of it, for there would always some of the roots escape and show themselves the next year in spite of him. He then prepared a strong solution of salt in water and poured it upon spots infested with the white weed. This effected a cure. If you have any of this weed beginning to show itself on your premises *pickle* it down.—*Maine Farmer.*

Sumach for Tanning.

It is well known that the sumach which grows wild in this state is useful for tanning, but that it imparts like hemlock and oak bark, a dark color to the leather, while the species of sumach brought from Europe or Asia is used for tanning sheep skins, and as we are informed, tans the pelt without imparting any coloring, and therefore leaves it perfectly white. Is there not some other vegetable substance growing abundantly among us that

will supply the place of this foreign article? We have no doubt there is, and that if experiments should be tried with some of our plants it would end in the discovery of one that would answer every purpose. Who will look it up?—*Ib.*

Destroy your Weeds.

Every farmer should be up and doing, be active and vigilant in waging a war of extermination, against weeds of every name and nature, from the Canada thistle to the insignificant chickweed, that is such a grievous annoyance in our garden. If you have not had time to rid every part and portion of your premises, around your buildings, and the sides of the road opposite your land, from these pests of the farmer, now is your time to take your scythe or hoe and cut them down to prevent their going to seed and returning you a hundred fold more of trouble next year. A double advantage may be gained by doing this if you will take the trouble to gather them up and throw them into your hog yard. You will get the thanks of your swine in the form of a number of additional pounds of pork in your barrel next fall, and a lot of good manure into the bargain. But if you have a piece of land that is very weedy which you wish to till next year, mow them by all means, let them lay upon the ground until they get dry and then burn it over. In this way you will not only destroy the weeds, but all the eggs and larvæ of insects that may be deposited therein, and clean the piece and prepare it finely for a crop of grain.—*Ib.*

Whitewash your Cellars, Out Buildings,

Last spring we reminded our readers of the advantages of whitewashing, and as we know that some neglected it then, we would again remind them of the advantages to be derived by it. Dog days are at hand when we always have a great deal of close weather, in which diseases are more apt to be generated than at any other season of the year, and during which most insects deposit their eggs. There are also many rainy days, which cannot be employed out of doors, we therefore advise those who have not before whitewashed their cellars and those parts of their buildings which need it, to do it now. By using a wash of quicklime while hot or as soon as it is slacked for this purpose, they will destroy the eggs of insects and do much to remove the cause of infection and effectually close up many places which would otherwise be favorable depositories for the eggs of insects, and produce a sweet and healthy atmosphere around their buildings.—*Ib.*

Bots in Horses.

It is said that bots in horses are caused by a fly that deposits its eggs upon the hair of the horse, which causes an itching, and as the horse scratches himself with his teeth, the eggs adhere to the glands of the mouth, and are thence carried with the food and drink into the stomach and there hatch and become bots. It is also said if a horse be supplied with salt frequently during the fly season that the eggs which go thus into the stomach will be destroyed and pass off without producing bots. The season is now at hand when these flies make their deposits, and farmers should be employing the preventive.—*Ib.*

Accumulation of Manure.

Manure is the true source of the cultivator's wealth. Every farmer should tax his wits to the utmost with a view to the accumulation of this article. He can never have too much of it, and must fail for the want of a competent supply. The barn of course, will yield its heaps in due proportion to the stock of cattle and horses kept. Sheep, too, yarded in winter, will make considerable, and this of an excellent, quality. But the hog yard is the place to make it in any desirable quantities. It is worth one's while to keep a lot of swine, if for no other purpose than as manufactures of manure. The yard should be on a stiff subsoil, dishing in the centre.—If it is floored with stone or plank, and has a cover over it, so much the better, as then neither the salts will go downward, nor the gasses upward. The whole strength will be retained. Put into this, through the whole vernal season, every thing of a waste vegetable description that you can rake and scrape together. As fast, too, as the family makes soap suds and dish water, in with every quart of it. Let none of it go elsewhere. It is an excellent plan to consult the road side for rich soil and low places for boggy substances, which have been washed down from elevated grounds. Cart this home as so much gained, and let your hogs saturate it with urine. Every load of it will come out next spring so much excellent manure. Go out too, half a dozen times in the course of the summer, with a stout scythe, and mow down all thistles before they have blossomed or gone to seed, cut up brakes at a great rate and all unnecessary bushes. Then take your hay cart and load up. Bring the collection home and pile it up outside the yard. Every little while throw a lot of this over to the swine. If you occasionally scatter a little corn or oats in the mass, it will do the hogs no harm to root after it, and will do the collection good by producing fermentation. A great many loads of the most valuable manure may be made every year by some care and attention of this sort.

Barn yards, also, should be constructed on principles similar to those which we have mentioned for the manufacture of manure by swine. These must, we suppose, be in the open air, whereby much of the gasses will escape; still the deposit of much in those yards, made lowest in the centre, will soon become saturated and prove an excellent stimulant to the soil and food for plants.—*Maine Cultivator.*

Dutch Butter.

Large quantities of butter are annually imported into England from Holland, and some from the same country has occasionally found its way into this. It is justly celebrated for its superior quality, and its power of resisting decomposition, or its not being liable to become rancid. In the Holland dairies, every thing is conducted with a system and neatness, from the feeding of the cows to the completion of the butter, worthy of all imitation and praise. That there is any thing in the climate or pastures of Holland that renders their dairy products superior to those of the rest of Europe, or to ours, is not to be supposed; the difference is clearly in the manipulation, and were our butter and cheese in general, made with as much skill and care as in Holland, we might successfully compete with the Dutch in the West Indies and other markets, to which our butter will now barely pay the cost of transportation. According to the report of Mr. Mitchell, made to the Highland Society of Scotland, the process in the Dutch dairies is substantially as follows:—The milk, when taken from the cow, is poured into large earthen pitchers and placed in a vat of cold water, which quickly reduces the temperature. It is then placed on shelves until the cream separates, when it is taken off and placed in vessels for churning. In these it is first allowed to become a little soured, and then the churn is half filled with the cream. In the best dairies, churning is performed daily; the system being so arranged, that a supply is constantly in readiness. In winter, a little boiled water is added to the cream to give the proper temperature previous to churning; and in very warm weather, it is sometimes submitted to the cold bath to reduce the heat. The butter, when taken from the churn, is put in a shallow vessel and carefully washed with pure cold water, and then worked with a slight sprinkling of fine salt, whether intended for rolls or for barreling. The butter is considered best, when the cows have been at grass about three weeks; it is then delicious—is made into fanciful forms of animals, pyramids, &c., and stuck over with fragrant flowers, and sells as high as sixty or seventy cents per pound. When intended for packing, the butter is worked up twice or thrice a day, with soft, fine salt, for three days, in a shallow tub; there being about two pounds of this salt used for fourteen pounds of butter. After this thorough preparatory working, the butter is then hard packed in thin layers into casks made perfectly sweet and clean. The wood preferred is oak, smoothed carefully inside. Three or four days before they are used, the casks are filled with sour whey, and this stands until they are emptied and cleansed for the packing of the butter. It is clear, from this description, that independent of the perfect neatness observed in every part of the process, the excellence of the Dutch butter, and the ease with which it is kept in its original sweetness when packed, is owing to the manner in which it is freed from the least particle of buttermilk, by the first washing and the subsequent repeated workings, as well as to the perfect incorporation of the salt by the same process. There are many of our American dairies that produce superior butter; but as a whole, that in our markets is a miserable article, destitute of that rich flavor belonging to good butter, and owing to the great amount of buttermilk left in it, utterly unfit for keeping. We believe a reform in these respects, would add materially to the profit of all those who should attempt it, as well as add greatly to the comfort of the great mass of purchasers and consumers.—*Genesee Farmer.*

Extirpation of Garlic.

Thomas E. Bond, in the *American Farmer*, says he has wholly destroyed the wild onion, in fields which have been over-run with it, by first cultivating them in corn, and after the corn was gathered, ploughing the field again, and leaving it exposed the succeeding winter in the state the plough had left it. The same gentleman says, that *St. Johnswort*, another troublesome weed, may be killed by a single ploughing in the early part of June, when it is in blossom, provided the ploughman, by means of a heavy chain attached to the plough, covers the plant effectually. If completely covered it will die.

Short-Horned Cattle.

Never think of buying short-horned or Durham cattle, until you are prepared to keep them well. They need an abundance of fresh pasture, and therefore to be frequently changed from one pasture to another, in succession, and plenty of food and good shelters in the winter. Thus provided for, they are valuable stock. But neglected in these respects, they are little better than native cattle. *Franklin Farmer.*

Succoring Corn.

Mr. Buckminster had, a few years since, a fine looking field of corn, from which he expected to gather a hundred bushels to the acre. It grew very rank, became quite too thick—hills three feet apart each way—numerous succors shot out from the bottom, which, when the corn was from six to seven feet high, were pulled off to admit air and light more freely. These succors varied from two to three feet in height. The crop was much *less* than was expected—and it was the opinion of some that it was injured by being succored. Unfortunately the whole field was succored, and no portion of it left for experiment. In *reasoning* upon the practice, we are led to think it injurious to pluck off the succors after they have grown large. When the ear is filling, a draft is made upon all the parts of the stalk, for its surplus juices, and as there is a free communication between all the branches of the stalk, we see not why it should not be as injurious to pluck off the full grown succors before the ear is filled, as to cut off the stalks above the ear while there are any juices in them that may be drafted to make the ear full. Many experiments should be tried, at different seasons, in the growth, before we shall be able to declare positively as to the effect of plucking off the succors. We think we often err in suffering too many stalks to stand in a hill. Of the middle sized corn, two stalks in a hill are sufficient when the hills are two feet apart in the rows. If too many are allowed to stand, there will be many stalks without a single ear.—*Boston Cultivator.*

Benefactors of the World.

That man who turns a weedy desert into a fertile garden—an idle stream of water into an instrument of industry and profit—who can press the "idle winds" into his employment and make them productive—who can make the streaming exhalation of boiling water move ships through the ocean against wind and tide—who can, with the same simple power, make ten thousand wheels revolve which a million of men could not move, and with almost magic aid convert our flax into fine linen, our wool into fine cloth—and extract from the centre of the mountains their richest ores—these are the men who are the benefactors of the world.—*Yankee Farmer.*

Daily Value of Sunshine.—The Editor of the Genesee Farmer rates the agricultural products of the United States at *five hundred millions of dollars annually*, the perfection of which depends on the weather of four months, June, July, August and September. Without *sunshine* the crops would be a failure, either totally or partially, and hence we may estimate its average value at *four millions of dollars daily*.

Hilling Potatoes.

P. Murphy has furnished in a late number of the *Genesee Farmer*, some interesting remarks on the *Cultivation of the Potato*, from which we take the following extract. When we take into consideration the vast amount of that article cultivated every year, we must readily come to the conclusion, that a very small saving of labor, or increase of the crop in each hill, will amount in the aggregate to a very important item. My notion of planting potatoes is simply this,—after the ground is properly prepared, place the seed in the furrow and cover it the proper depth, six or eight inches, with good mellow earth; leave the surface of the ground flat, not raised more than two or three inches above the level of the surrounding earth; keep it clear of weeds, but put no more earth over them. My reason is, that when the potatoes commence growing, and the time has arrived for the tubers to put forth, they will shoot out at the exact distance from the surface, in which they will delight to grow and continue, and to obtain the best possible supply of light or warmth, and will choose for themselves a more exact depth, more agreeable to the nature of the plant, than we short-sighted mortals can possibly choose for them. And that after the tuber has put forth, if we put on the hill five or six inches more of earth, I would ask whether the position of the tuber is not materially changed. Does it receive the same supply of light or warmth. Certainly not; for we most generally see a second growth of tubers put forth above the first, and about the same distance from the surface as the first, before the additional hilling. Perhaps some will say, the first tubers continued to grow and produced potatoes. That may be true. The additional earth might injure without entirely destroying them; for the potato is a very hardy plant, and will grow under almost any circumstances. I wish to be understood in this matter. I am in favor of a good supply of earth, but let all that is to be put on be done when the potato is planted; and the better and richer the earth, of course the better the crop; but no additions; nature is more correct than we can be in this matter. And I would observe; that a flat surface is much better adapted to obtain a supply of moisture, by admitting the rain, &c. As a general rule, I think the distance of the hills should be governed by the space occupied by the tops; for much of the nutriment of vegetables is taken from the air; consequently when the tops are too close, they cannot so readily obtain it. I have generally found this to be true in regard to vines. Give them sufficient room, and the fruit will be more perfect in quality, and greater in quantity.

Health.

The occupation of the farmer is favorable to health. Man was made for exercise—for toil—and in it he finds not only health but happiness. The use of all our faculties, both of body and mind, constitutes the sources of pleasure. Inaction and sloth confer not this treasure for which man lives and toils. The most unhappy individuals and the most miserable, imbecile nations, are those whom necessity does not compel to labor diligently for a livelihood. Therefore let not the farmer regard his occupation as a slavish one, or look with envy upon the man who toils not with his hands. He has occasion to envy no one—there are some he can *despise* or *pity* if he pleases.

But when we commenced this paragraph we intended to say a word upon the care which ought to be taken of health, and the means which should be used to preserve it—for it is much easier to retain than to gain it, and much more pleasant. The principal preservatives of health are, in the language of a cotemporary, "pure air, pure drink, plain food, exercise, cleanliness, protection, regular rest, occasional abstinence, and an active and well governed mind," and, we would add, temperance in all things. Each of these might be made the text for a sermon longer than would be interesting to our readers. We will therefore leave the texts to be preached, practically, by those most concerned.—*Cheshire Farmer.*

Remarks on the use of Lime in Agriculture.

We may now draw, says the highly intelligent author of an essay on the use of lime, a few plain and practical inferences from what has been stated, and which are sustained by thirty years practice in the use of lime.

1st, That lime operates equally well, whether applied in a *hot* or *effete* state, provided the condition of the ground upon which it is used, be such as to render a calcareous application beneficial.

2dly, That, in respect of operation, it is immaterial whether the lime be used upon grass land or summer-fallow, and that objects of conveniency ought chiefly to weigh with the farmer in ascertaining the most proper time for applying this article. Upon old grass land, it is perhaps best to plough first, and to summer-fallow in the second year, when lime can be applied. On new and clean grass land, hesitation is superfluous; it may be limed at the outset, that is, before the plough is admitted.

3dly, That to lime moorish soils is a hazardous business, unless dung is likewise bestowed; but to repeat the application upon such soils, especially if they have been severely cropped, is almost a certain loss, and that a compost of lime and rich earth is, in such cases, the only substitute.

4thly, That strong loams and clays require a full dose to bring them into action; such soils being capable of absorbing a great quantity of calcareous matter. Lighter soils, however, require less lime to stimulate them, and may be injured by administering a quantity that would prove moderately beneficial to those of a heavy nature.

5thly, That upon fresh land, or land in a proper state for calcareous application, lime is much superior to dung. Its effects continue for a longer period: while the crops produced are of a superior kind, and less susceptible of injury from the excesses of drought and moisture. Finally, the ground, particularly if of a strong nature, is much easier wrought; and, in many instances, the saving of labor would almost tempt a judicious farmer to lime his land, were no greater benefit derived from the application, than the opportunity thereby gained of working it in a perfect manner.

It may be added, that though strong soils require to be animated with a good dose of lime, those of a light texture will do equally well with little more than half the quantity requisite on the others, especially if they are fresh, or have not already received an application of calcareous matter. In every case it is the farmer only who can judge of the quantity to be given; but, as a general principle, it is safer to exceed the proper quantity than to be below it. In the latter case the application may prove useless, and the whole expense be lost; whereas, it rarely happens, that injury is sustained from an excess, especially if more or less dung is soon after administered."—*American Farmer.*

Comparative Value of large and small Turneps.

We have frequently alluded to the fact, that the ruta baga is the only cultivated root that increases in nutritious properties as it increases in size. SINCLAIR found, on analysis, that a root of the common turnep measuring seven inches in diameter, afforded only seventy-two grains and a half of nutritious matter, while the same quantity of a root which measured only four inches, afforded eighty grains, or double what the large one gave. The largest root of the Swedish turnep afforded one hundred and ten grains, while the middle sized or smaller roots gave but ninety-nine. The Swede is stated to have grown to weigh sixty pounds, exclusive of tops and tails, in Van Dieman's Land.—*Cultivator.*

Review of the Weather for July, 1839.

Thus far we have had a most delightful summer. A healthful atmosphere, and a fruitful season for every thing pleasant to the eye, and delightful to the taste. The first nine days of the month just closed, were moderately cool, and the question was frequently asked, "Are we to have no hot weather this summer?" On the 10th the mercury ran up to 90, when the exclamation was heard, "O, how terribly hot it is!" From that date we had frequent showers during the night, succeeded by hot sunny days, with mercury ranging from 80 to 90. The warmest days, by our thermometer, were the 22d and 27th, when it rose to 91 and 93. But the aggregate heat of the month was quite moderate in comparison with the corresponding month of last year, when the mercury ranged during eighteen days, from 90 to 97 in the shade, and in no instance was it so low as 80 at 2 o'clock. The average of the whole month, at mid-day, was 90; and the average of every twenty-four hours during the month was 81. Whereas, the average of the month just passed was, at sunrise, 68; at 2 o'clock, 85; at 10 P. M. 69; and the whole month was 74; being a difference of seven degrees more in July 1838, than 1839. More or less rain fell on eighteen different days, principally during the night. The quantity during the month was two and a half inches. The wind was exceedingly variable. There were but two days when it blew from the same quarter the whole day. A more fruitful season has not occurred, perhaps, for twenty years. Our markets abound with every luxury of the season.—*U. S. Gazette.*

The Army Worm,

A letter from our correspondent at Quincy, Ill., advises us, is making great ravages in that section of the country. We can neither give the history of this new enemy, nor prescribe a mode of destroying them. They are in a measure unknown east of the Alleghany mountains. Yet, while penning this notice, our friend Robt. White, jr., of Shrewsbury, N. J. has called upon us, and informs that the army worm appeared in his neighborhood last season, and that this season its ravages have been alarming. When it enters a field, it sweeps vegetation almost clean, eating the leaves and even the beards of wheat, without disturbing the grain, and divesting the corn wholly of its foliage. Every attempt to check its progress, as trenches, &c. had proved abortive.—*Cultivator.*

In business, the keeping close to the matter procureth despatch; and true despatch is a rich thing.

Agricultural Exhibition.

The Philadelphia Society for Promoting Agriculture having resolved to hold an Exhibition and Sale of live stock, agricultural implements, &c. this season, the committee of arrangement have selected Parrot's Tavern, Rising Sun Village, on the Germantown turnpike, as a convenient and suitable location. The Exhibition will take place on Tuesday and Wednesday, the 22d and 23d of October next, and the Sale on Wednesday the 23d, conducted by Mr. Charles J. Wolbert, a member of the society.

The following PREMIUMS will be awarded, subject to the rules and restrictions named below.

HORSES.

For the best stud horse,	$10 00
For the 2d best do.	6 00
For the 3d best do.	4 00
For the best brood mare	10 00
For the 2d best do.	6 00
For the 3d best do.	4 00
For the best colt between 2 and 3 years old	6 00
For the 2d best do. do. do.	4 00
For the best do. under 2 years old	5 00
For the 2d best do. do.	3 00

In judging of horses, particular regard will be had to their adaptation to general use on the farm and road; combining strength, speed, symmetry, and beauty of form and action.

NEAT CATTLE.

OVER TWO YEARS OLD.

For the best imported bull, Durham,	$10 00
For the 2d best do. do.	5 00
For the best do. of other breed	10 00
For the 2d best do. do.	5 00
For the best do. cow, Durham	10 00
For the 2d best do. do.	5 00
For the best do. do. of other breed	10 00
For the 2d best do. do. do.	5 00
For the best native bull, Durham,	10 00
For the 2d best do. do.	5 00
For the best do. of other breed	10 00
For the 2d best do. do.	5 00
For the best do. cow, Durham	10 00
For the 2d best do. do.	5 00
For the best do. do. of other breed	10 00
For the 2d best do. do. do.	5 00

BETWEEN ONE AND TWO YEARS OLD.

For the best bull, Durham	$6 00
For the 2d best do.	4 00
For the best bull of other breed	6 00
For the 2d best do. do.	4 00
For the best heifer, Durham	6 00
For the 2d best do.	4 00
For the best heifer of other breed	6 00
For the 2d best do do.	4 00

UNDER ONE YEAR OLD.

For the best bull calf, Durham,	$5 00
For the 2d best do. do.	3 00
For the best do. of other breed.	5 00
For the 2d best do. do.	3 00
For the best heifer calf, Durham	5 00
For the 2d best do. do.	3 00
For the best do. of other breed	5 00
For the 2d best do. do.	3 00

For the best ox or steer raised in Pennsylvania and fitted for slaughter,.....10 00
For the 2d best ox or steer raised in Pennsylvania, and fitted for slaughter.....5 00

An account of the manner and expense of feeding to be furnished.

For the best yoke of working oxen $10 00
For the 2d best do. 5 00

NOTE.—No animal of less than three-quarters blood will be classed as Durham.

SHEEP.

For the best Leicester or Lincoln buck.....$4 00
For the 2d best do. do. 2 00
For the best Southdown buck.....4 00
For the 2d best do. 2 00
For the four best Leicester or Lincoln ewes.....5 00
For the four 2d best do. do. 3 00
For the four best Southdown ewes.....4 00
For the four 2d best do. 3 00
For the four best Leicester or Lincoln lambs.....5 00
For the four 2d best do. do. 3 00
For the four best Southdown lambs..... .....5 00
For the four 2d best do. 3 00

HOGS.

For the best boar.....$5 00
For the 2d best boar.....3 00
For the best sow.....5 00
For the 2d best sow.....3 00
For the best brood of pigs, not less than six.....5 00
For the 2d best do. do. 3 00

AGRICULTURAL IMPLEMENTS.

For the best plough.....$5 00
For the 2d best do. 3 00
For the best drilling machine.....4 00
For the 2d do. 2 00
For the best grain or grass sowing machine.....5 00
For the 2d do. do. do. 3 00
For the best mowing or reaping do. 5 00
For the 2d best do. do. do. 3 00
For the best display of agricultural implements..10 00
For the 2d best do. do. do. ...6 00
For the 3d best do. do. do. ...3 00
For the best do. agricultural produce.....10 00
For the 2d best do. do. do. 6 00
For the 3d best do. do. do. 3 00

Any newly invented agricultural implements or apparatus, will be entitled to appropriate premiums.

The judges are authorized to withhold premiums where none of a class is entitled in their opinion to distinction. And where there is but one of a kind exhibited, or no competition, they will award the premium of the class or quality to which they think it entitled.

No animal or article that has before obtained a "first" or "best" premium, will be entitled to compete in the same class.

It is particularly recommended that those who intend contributing to the exhibition, send their stock, implements, &c. on Monday afternoon, the 21st of October, when the Committee will be in attendance to arrange and classify them.

KENDERTON SMITH,
Chairman.

ALGERNON S. ROBERTS,
Sec. of Com. of Arragement.

Philad. June 22d, 1839.

Exhibition of Fruits and Flowers.

THE PENNSYLVANIA HORTICULTURAL SOCIETY will hold its Eleventh Exhibition in the Grand Saloon of the PHILADELPHIA MUSEUM, corner of Ninth and George streets, on WEDNESDAY, THURSDAY, and FRIDAY, the 18th, 19th, and 20th, of September. The Committee charged with the preparatory arrangements, solicit contributions in FRUITS, FLOWERS, or CULINARY VEGETABLES; and specimens of either, of a quality meriting distinction, will be thankfully received and publicly acknowledged. When transmitted from a distance, by public conveyance, the Society will cheerfully defray the cost of transportation. They may be addressed to Messrs. D. LANDRETH & Co., at their Seed Warehouse, No. 63 Chestnut street.

PREMIUMS for the following FRUITS, &c. to be competed for, on that occasion, will be awarded at nine o'clock, A. M. on the second day, (19th) of the exhibition, viz:

For the best Grapes, native, not less than six bunches, $5 00
" next best do. do. do. do. 4 00
" next best do. do. do. do. 3 00
" best do. foreign, raised in the open air, not less than four bunches, 5 00
" next best do. do. do. 4 00
" next best do. do. do. 3 00
" best do. raised under glass, do. 5 00
" next best do. do. do. 4 00
" best peaches, not less than one peck 5 00
" next best do. do. do. 3 00
" best two dozen Peaches, 3 00
" best bushel of do. 10 00
" next best do. do. 5 00
" best seckel Pears, not less than one peck, 5 00
" " butter Pears do. do. 5 00
" " Pears of any other variety, not less than one peck, 5 00
" " Apples, not less than one peck, 3 00
" next best do. do. do. 2 00
" best bushel of Apples, 5 00
" next best do. do. 3 00
" best Quinces, not less than half a peck, 3 00
" Nectarines, not less than one dozen, 3 00
" Water Melons, not less than three, 5 00
" next best do. do. do. 3 00
" best Water Melons, raised in Pennsylvania, not less than three 3 00
" " Nutmeg Melons, or variety thereof, 3 00
" " Potatoes, not less than half a bushel, 3 00
" " Sweet Potatoes, do, do. 3 00
" " Onions, not less than four dozen, 3 00
" " Cabbage, not less than six heads, 3 00
" " next best do. do. do. 2 00
" best Red Cabbage, do. do. 3 00
" " Carrots, field culture, two dozen, 3 00
" " Lettuce, not less than six heads, 3 00
" " Endive, blanched, do. do. 3 00
" " Salsify, not less than two dozen, 3 00
" " twelve varieties of Dahlias, 5 00
" next best do. do. 3 00
" best American Seedling, Parti-colored Dahlia, 3 00
" " do. do. Self-colored do. 3 00
" " Pyramid, or other figure formed of cut flowers, 15 00
" next best do. do. do. 10 00
" best Boquet, 5 00

To prevent confusion it will be necessary that all contributions be presented on the Monday and Tuesday previous to the Exhibition. Boquets on the morning of each day.

JOHN B. SMITH,
PETER McKENZIE,
PETER K. GORGAS,
THOS. P. JAMES,
ROBERT KILVINGTON,
Committee of Arrangement.

State of the Markets.---Aug. 7.

FLOUR AND MEAL.—There has been a fair demand for flour this week, ending August 7, both for export and home use. Owing to the small stock on sale, holders are asking 12½ to 25 cents per barrel, advance. Sales of old stock for export at $5 25 a 5 37½, and fresh ground at $5 50 a $6—at the latter price made from old and new wheat. Sales of old stock, for city use, at $5 25 a $5 37½, and fresh ground at $5 50 per bbl.—extra $5 75 a $6. *Rye Flour* has been taken at $3 37½.

GRAIN.—*Wheat* is steady, and the receipts quite limited. Small sales of Pennsylvania from store, at $1 27 a $1 32 for old crop; some fair Southern at $1 23 a $1 25. *Rye*—A lot of new Southern, sold at 75 cents. *Corn*—Southern has been at 70 a 76 cents for flat yellow, mostly at 78 a 80. *Oats*—At 31 a 35 cents per bushel. Sales of 20 a 22,000 bushels.

PROVISIONS.—Small sales of mess pork at $16 a $16 50, cash and time; prime $15 per bbl. *Bacon*—Sales at 10 a 12 cents for common to prime Hams; 9½ a 10 for sides, and 7 a 8½ cents for shoulders; canvassed hams, 12 a 12½ cents. *Lard*—Sales have been made at 11½ a 12½ cents per lb. for Western.

WOOL.—Operations rather limited—no essential variation in prices.

CATTLE MARKET.—The offerings of *Beef Cattle* were 65 head. Sales at from $7 25 a $9 25 per 100 lbs., for inferior to prime quality, being a further decline. *Cows* and *Calves* were taken at 28 to 38, and extra 42 each. *Hogs* sold at $7 75 a $8 75. *Sheep* and *Lambs*—Supply 2400, about 1800 of which were taken at $2 50 a $4 50 for the former, and $1 50 a $2 50 for the latter.

Quantity of rain which has fallen in each month since January 1, 1839.

	Inches.
1st month,	5.03
2d month,	3.42
3d month,	1.50
4th month,	1.50
5th month,	6.07
6th month,	3.92
7th month,	2.51

Philadelphia Hospital, 7th mo., 1st, 1839.

IMPROVED STOCK.

The Subscriber would inform those desirous of purchasing improved Stock, that after much pains and great care he is able to offer breeding stock of as fine a quality as is to be found in the country. The "Earl of Jersey" and "Duke of Gloucester," (likenesses of which may be found in the Farmers' Cabinet, Vol. II. page 365) are fine samples. Persons desirous of purchasing, or further information, can address the subscriber, Clarkesboro', Gloucester County, N. J.

June 15, 1839.—2t. EDMUND TONKINS.

MORUS MULTICAULIS TREES.

The Subscriber is now prepared to contract for the delivery of **50,000 Morus Multicaulis Trees,** in the fall, on liberal terms, in lots to suit purchasers.

P. R. FREAS,

Office of the Telegraph, Germantown.

J. D. Emes's Patent Cast Iron Threshing Machine.

An establishment for the manufacture of the above machines, will be put into operation in this city, of which due notice will be given. They are now constructed by Stevens & Hutchinson, at the Mechanics' and Farmers' Depository, Boston, Massachusetts.

J. D. Emes's Patent Cast Iron Threshing Machine, without any disparagement to other valuable improvements, warranted equal, if not superior, to the best in any country, for threshing all kinds of small grain, rice and small seeds, from wheat to herdgrass seeds.

This machine is less than three feet square, strong, simple and plain, and not liable to get out of order. One quarter the expense of flail strings will keep it in repair to thresh the same number of bushels.

To thresh one hundred bushels with this machine is considered a day's work; it will, however, do as much more, as the feeder can handle straw to make; and always at a saving of at least ten per cent. in extra grain, above that threshed by flail, or any other ordinary method ever yet introduced.

If durability, expedition, convenience, economy and profit, be an object, then this truly valuable and useful machine will commend itself, above all others, to the use of every grain raising farmer; being warranted in every respect.

CURTIS BRUCE and HUDSON BURR have become interested with the patentee, in the States of Pennsylvania, New Jersey, and Delaware. Any person wishing to see the above machine, or become interested in it, will receive all necessary information by calling on the subscribers, at Burr's Hotel, No. 2 South Wharves, lower side of Market street Philadelphia.

J. D. EMES,
CURTIS BRUCE,
HUDSON BURR.

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